



Appl. No. 09/894,351
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FIG. 1

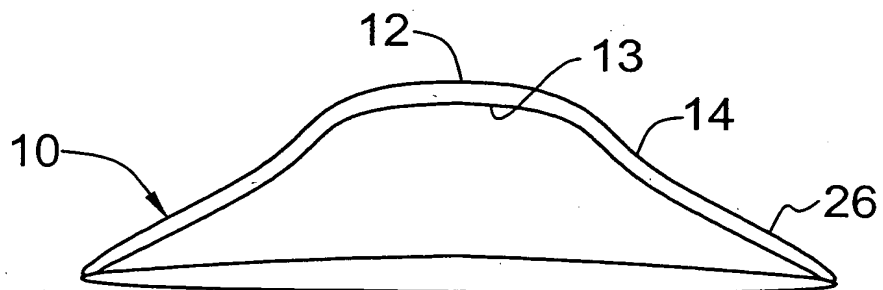
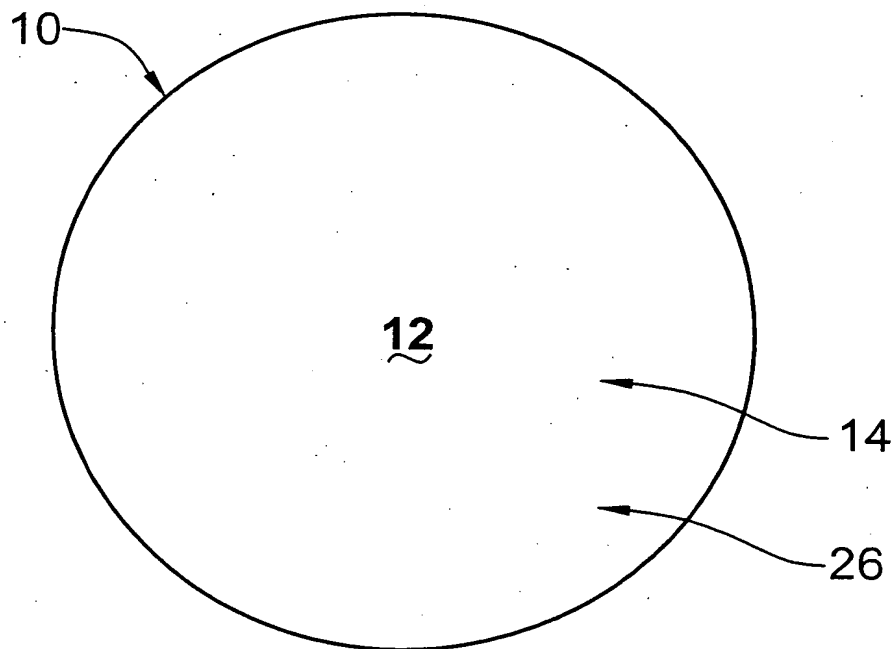


FIG. 2



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FIG. 3

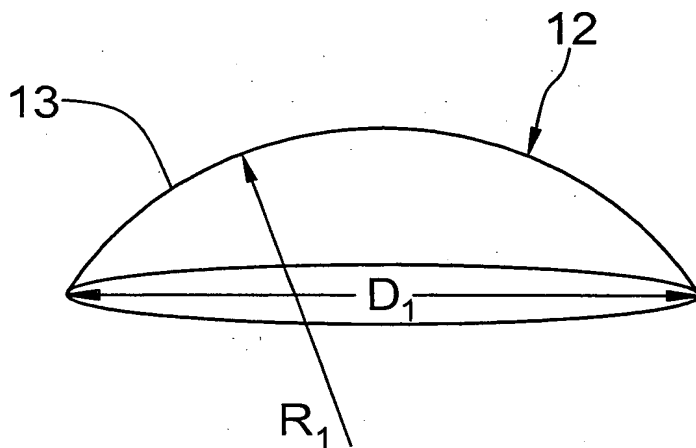


FIG. 5A

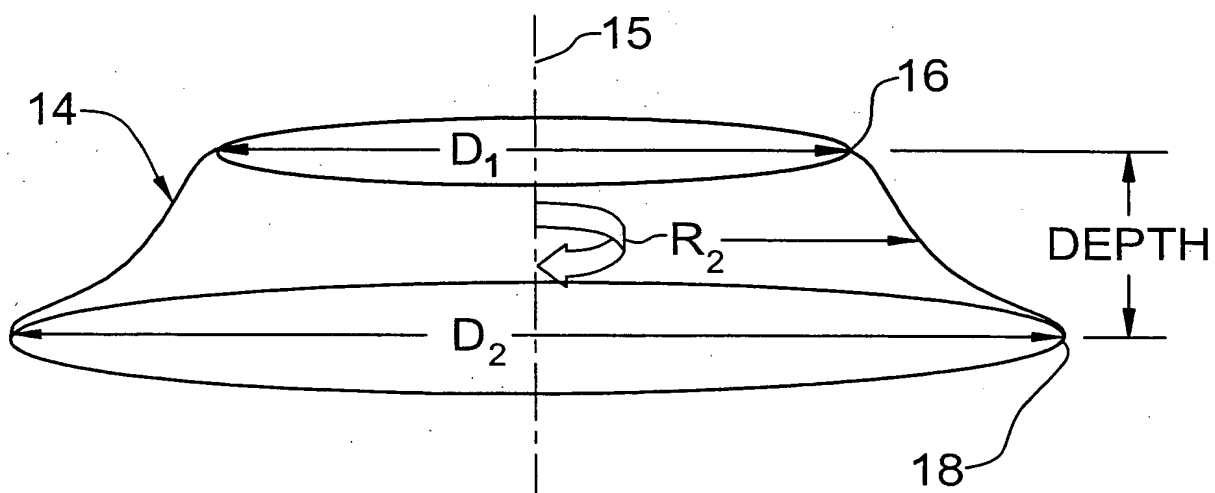




FIG. 4A

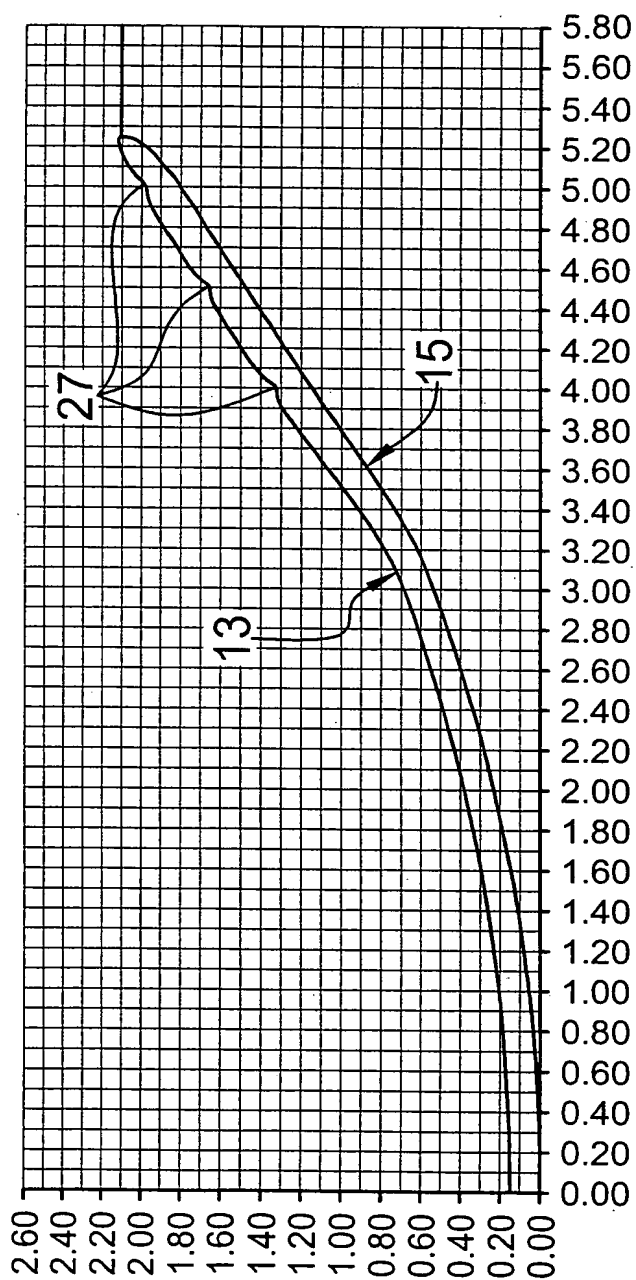
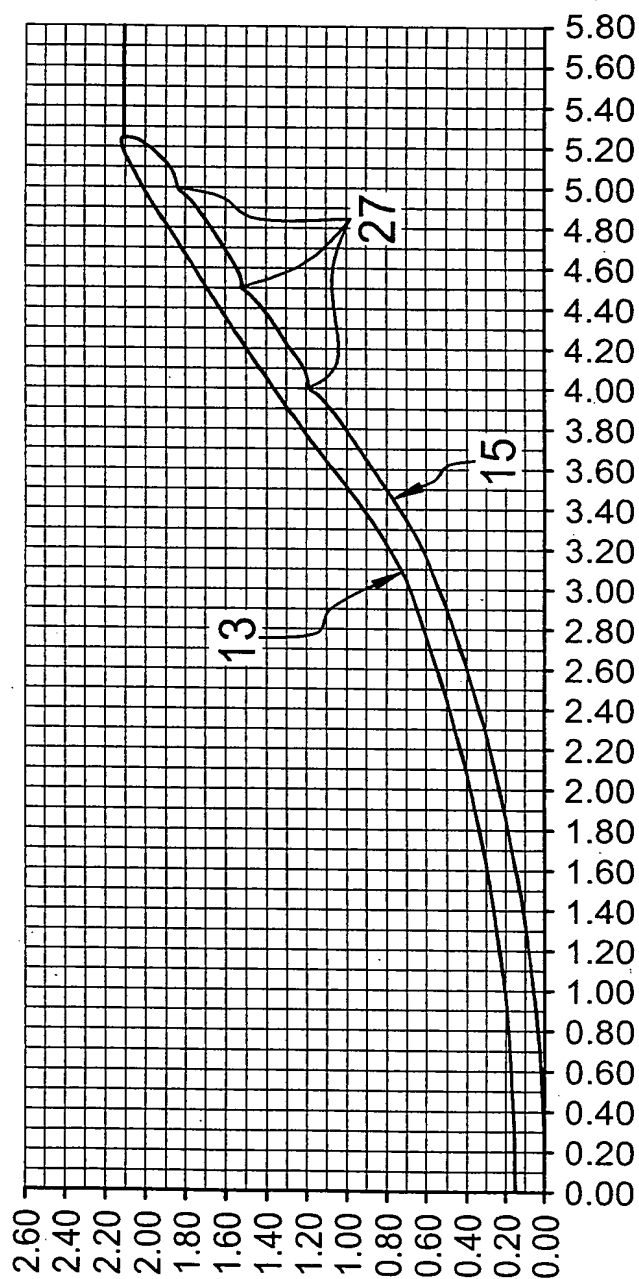
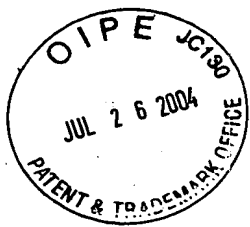


FIG. 4B





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FIG. 7

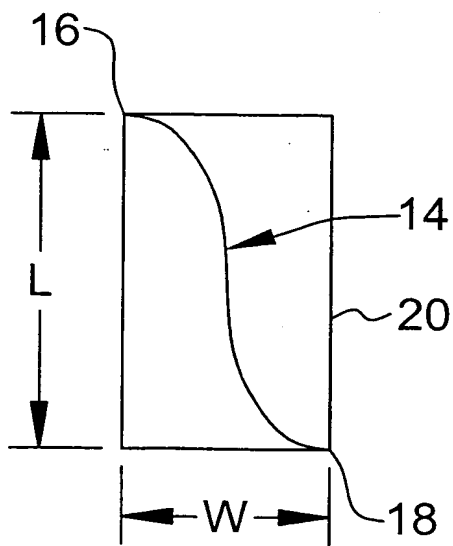
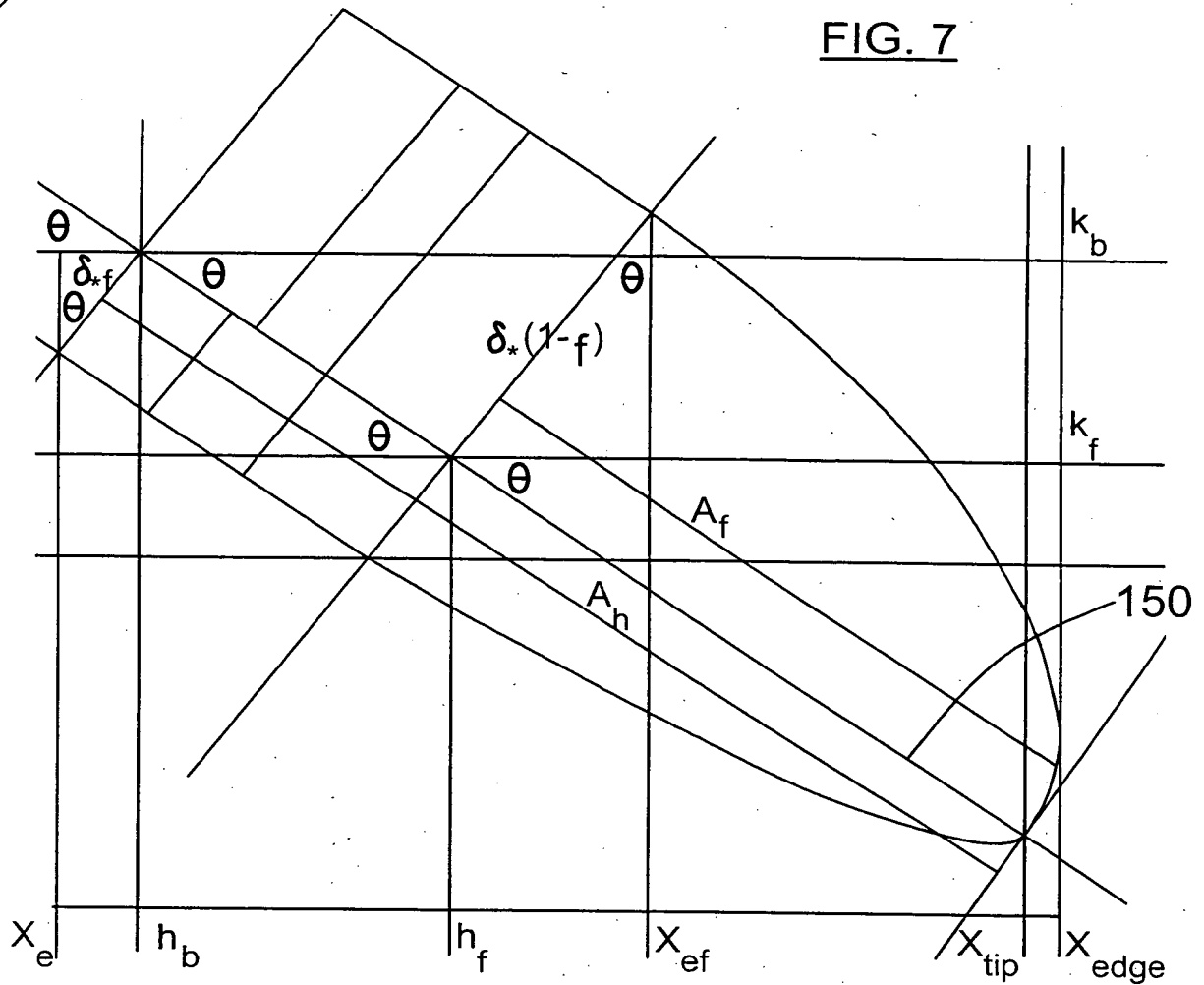


FIG. 5B

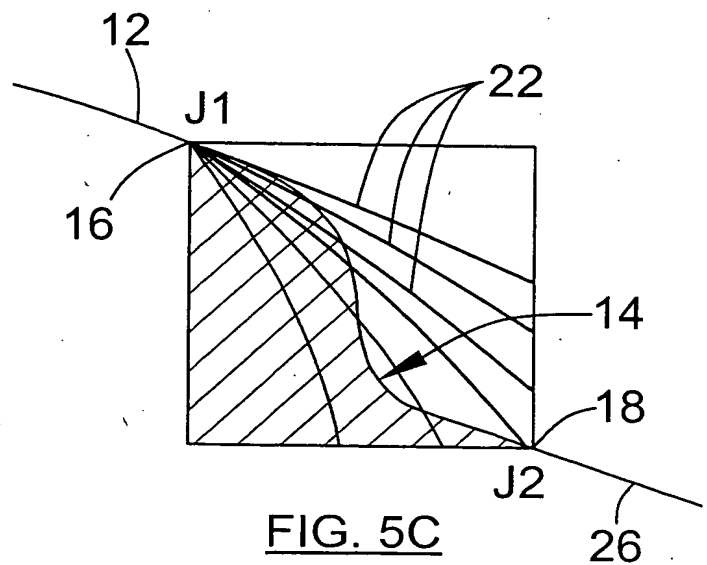
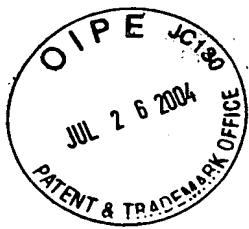


FIG. 5C



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FIG. 6

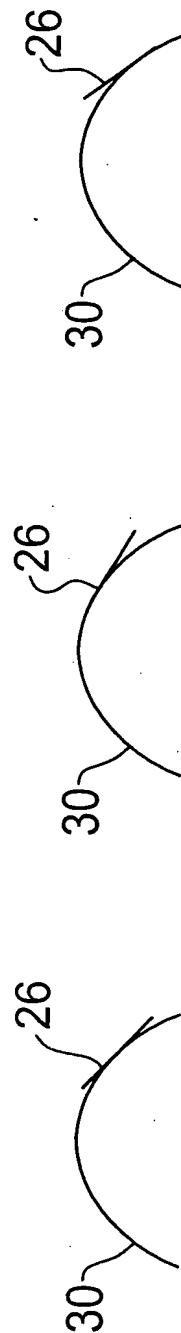
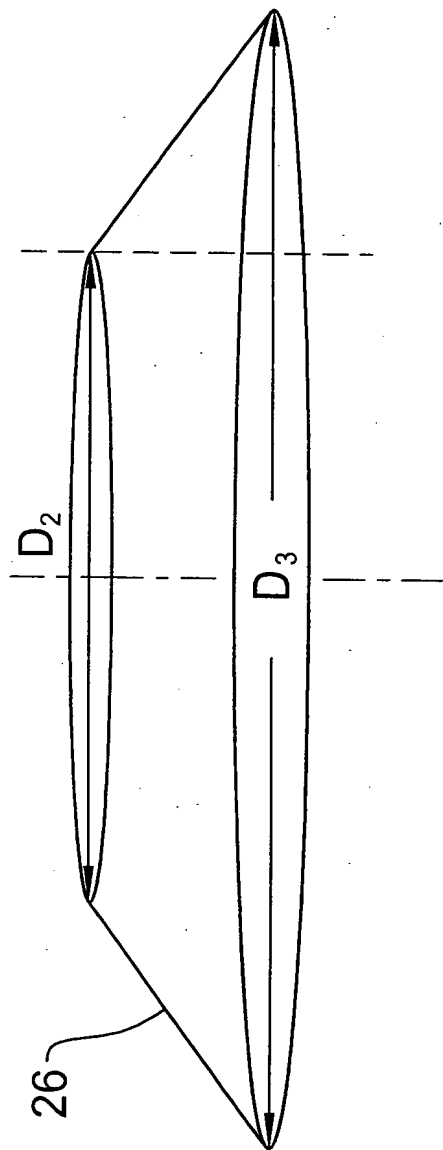


FIG. 8A

FIG. 8B

FIG. 8C



FIG. 9A

BC	selected bc (6.9-10.4/0.1) x <u>208</u> (7.70-9.1/.05)	8.40	Suggested Base Curve is 8.4	
J1	Radial distance (OZ/2) from the lens center to 1st junction mm (1.0-5.9/0.1)	<u>210</u> 3.00		corneal apical radius 1 (mm)
SW	Width of the S curve mm (.75,1)	1.00	EYE	7.58
MAT	<u>212</u> Lens material (FP30, FP60, FP92, FP151, HDS, Other)	HDS	Ref. Index of material used = 1.449 If 'other' was selected input R1 in Cell H4	Volume between BC and cornea (uL) = 0.994
P	lens power desired (-1.00, -0.50, 0.00, 0.50, 0.75, 1.0, 1.25, 1.5, 2.0, 2.5)	<u>214</u> 0.50	Front Surface central radius = 8.37	Volume between S curve and cornea (uL) = 1.739
$\Delta 1$	Delta R (mm) translation of 1st junction radially from BC origin (0.08-0.2/0.02)	<u>222</u> 0.14	True center thickness (mm) = 0.152 <u>224</u>	Volume between pretouch Landing Zone and cornea (uL) = 0.718
$\Delta 2$	Delta R (mm) translation of 2nd junction radially from BC origin (0.1-0.22/0.02)	0.18	True offset between landing zones at J2 = 0.179	TOTAL VOLUME = 3.451(uL)
A	Angle of the landing zone (-25.5 to -50.0/.5)	<u>216</u> -35.00	Present lens height (mm) above cornea at diameter of tangential touch = 0.040	Diameter where LZ would make tangential touch = 9.08
D	selected lens diameter mm (8.0-12.9/0.1)	<u>209</u> 10.50	Diameter <u>206</u> recommended from HVID = 10.6	Dia giving desired LZ lift = 10.42
SD	Selected depth of the S curve mm (.15-1.0/.05) x (0.3-0.65/.025) use next smaller than est.	0.500	Recommended depth (mm) S curve for desired correction @6u/D = 0.510 mm	Edge lift at selected diameter = 0.094

220

218



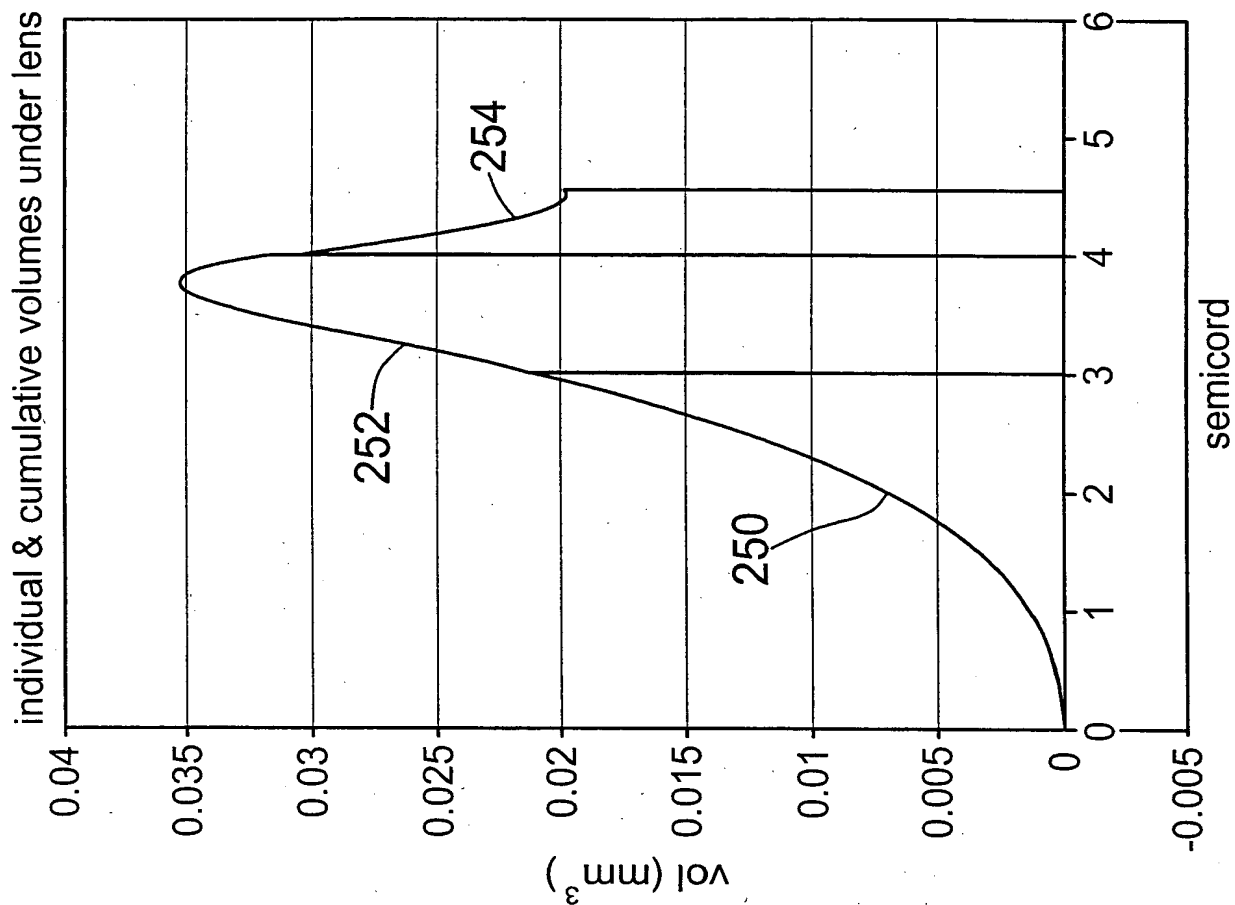
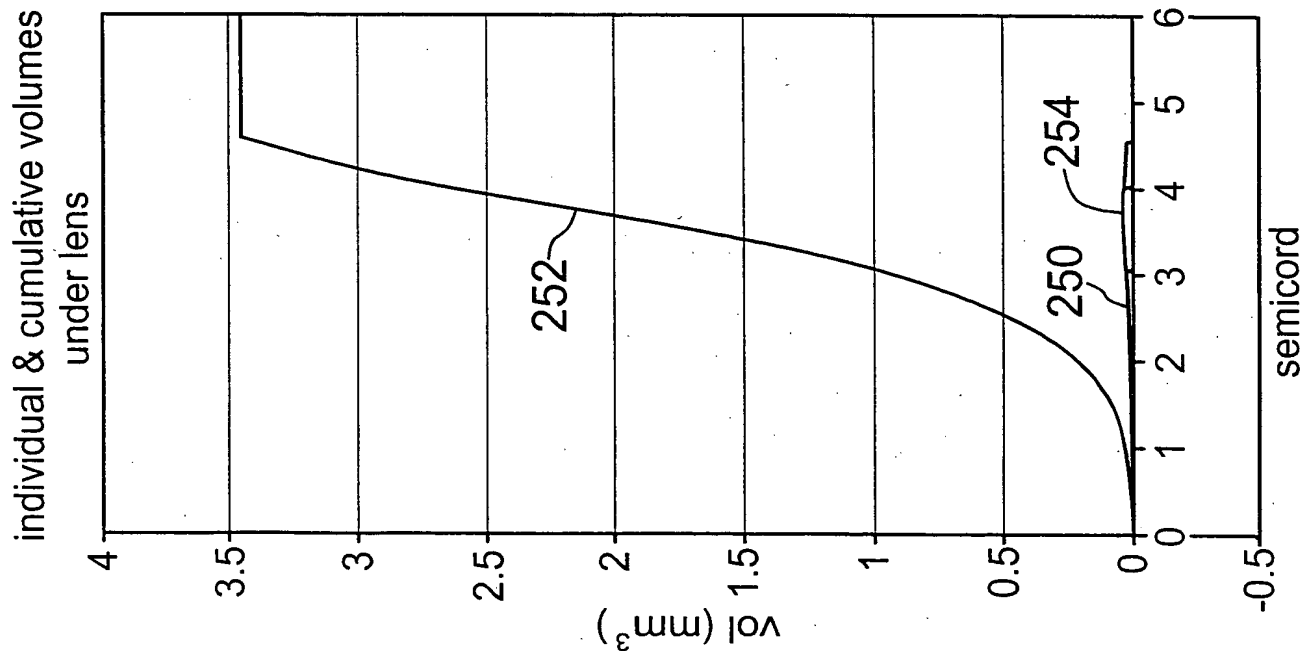
FIG. 9B

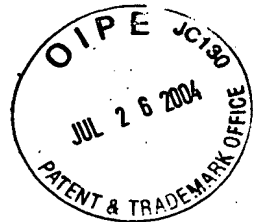
BC	200		
	202		
J1	204		
	lens / cornea power (D) difference wanted	ellipticity of the cornea	HVID (mm)
SW	-4.50	0.5	11.6
MAT	Actual power (D) difference between bc and apical cornea = -4.35	Desired edge lift (mm) when landed at full Diameter = 0.083	1.45
P	Recommended diameter for lentic = 8.024	Ab, the long axis of the ellipse creating the base curve edge (below)	FOR SPHERICAL FRONTS target edge thickness (below)
$\Delta 1$	Recommended radius of curve for lentic = 8.106	0.40	0.18
$\Delta 2$	Origin for lentic curve is on y axis displaced from apex of front curve = 8.068	Af, the long axis of the ellipse creating the front curve edge (below)	SPHERICAL FRONTS: max thickness peripheral to J1 before lentic (in mm > Delta 2) see below
A	Estimated elevation at J2 = 0.070	0.40	0.01
D	fixed (tear thickness)	base to front at which the transition from base ellipse to front ellipse is found (below)	Minimum thickness peripheral to J1 before lentic (in mm > Delta 1) see below
SD	0.006	0.25	0.01



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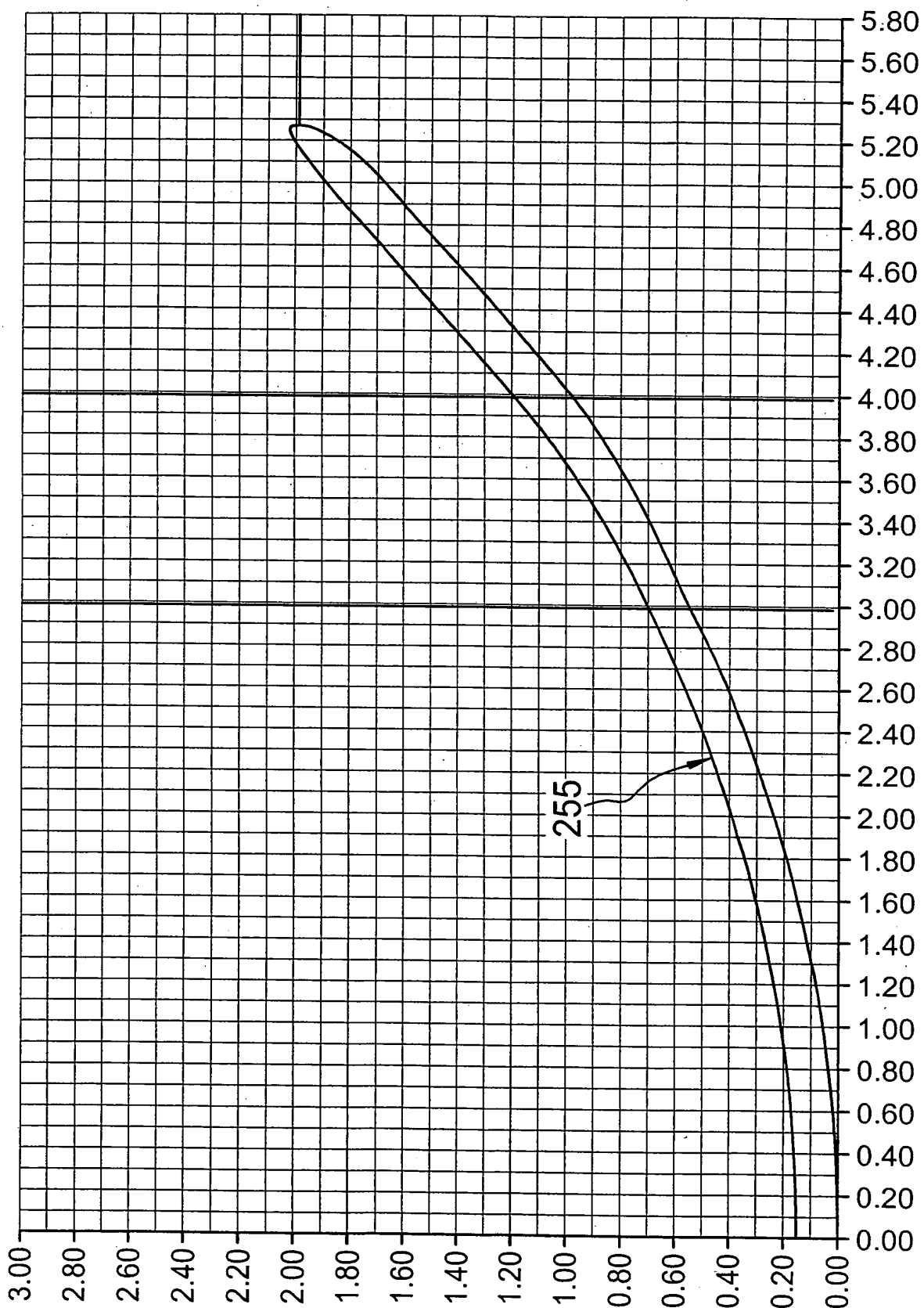
FIG. 11





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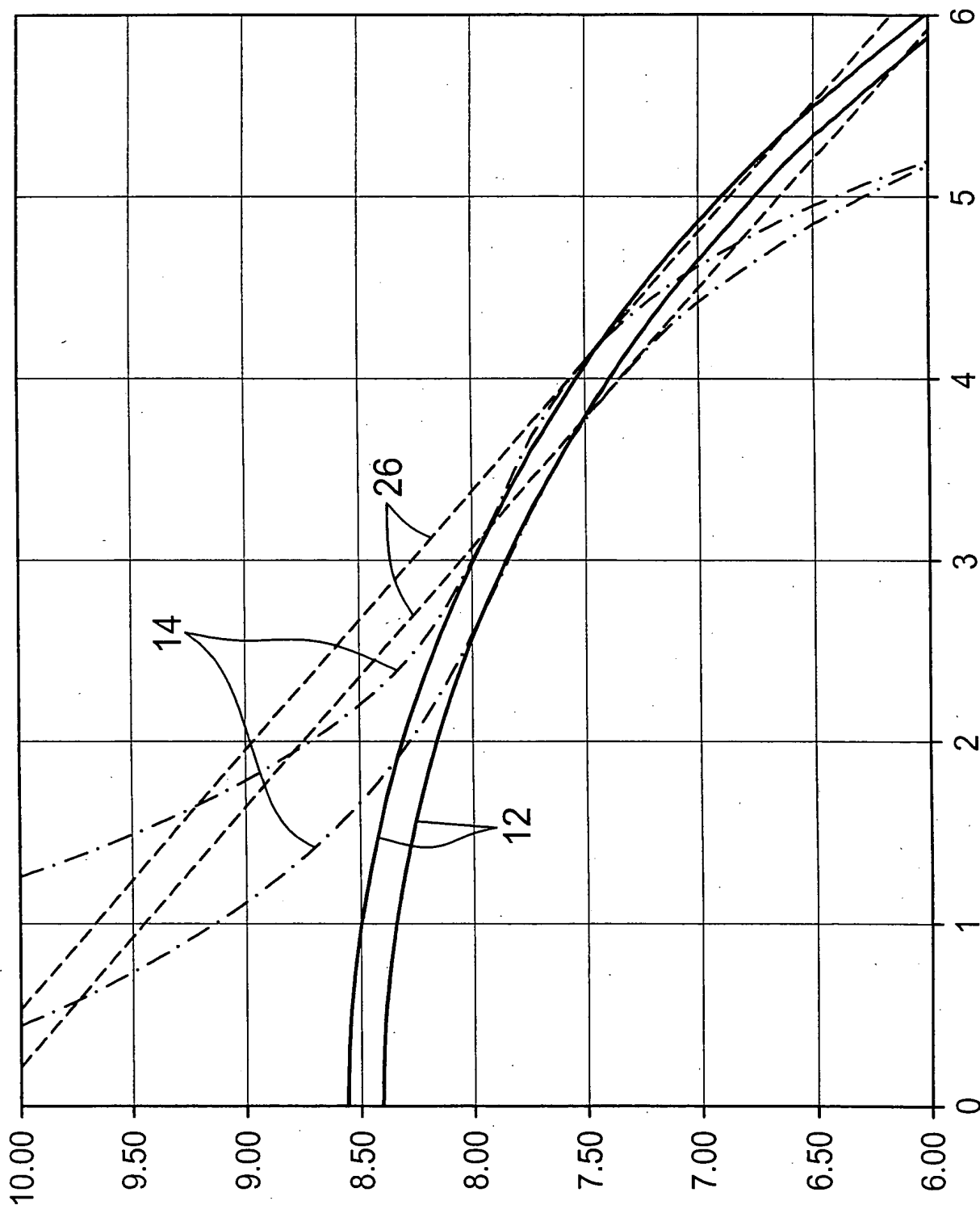
FIG. 12





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FIG. 13



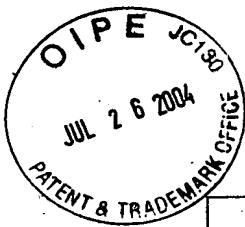


FIG. 14A

BC	selected bc (6.9-10.4/0.1) x (7.70-9.1/.05)	8.90	Suggested Base Curve is 8.9	
J1	Radial distance (OZ/2) from the lens center to 1st junction mm (1.0-5.9/0.1)	3.00	2B	corneal apical radius (mm)
SW	Width of the S curve mm (.75,1)	1.00	EYE	8.03
MAT	Lens material (FP30, FP60, FP92, FP151, HDS, Other)	HDS	Ref. Index of material used = 1.449 If 'other' was selected input R1 in Cell H4	Volume between BC and cornea (uL) = 0.926
P	lens power desired (-1.00, -0.50, 0.00, 0.50, 0.75, 1.0, 1.25, 1.5, 2.0, 2.5)	0.50	Front Surface central radius = 8.88	Volume between S curve and cornea (uL) = 1.742
$\Delta 1$	Delta R (mm) translation of 1st junction radially from BC origin (0.08-0.2/0.02)	<u>232</u> 0.20	True center thickness (mm) = 0.214	Volume between pretouch Landing Zone and cornea (uL) = 0.867
$\Delta 2$	Delta R (mm) translation of 2nd junction radially from BC origin (0.1-0.22/0.02)	0.12	True offset between landing zones at J2 = 0.119	TOTAL VOLUME = 3.534(uL)
A	Angle of the landing zone (-25.5 to -50.0/.5)	-33.00	Present lens height (mm) above cornea at diameter of tangential touch = 0.041	Diameter where LZ would make tangential touch = 9.26
D	selected lens diameter mm (8.0-12.9/0.1)	10.40	Diameter recommended from HVID = 10.4	Dia giving desired LZ lift = 10.68
SD	Selected depth of the S curve mm (.15-1.0/.05) x (0.3-0.65/.025) use next smaller than est.	0.450	Recommended depth (mm) S curve for desired correction @6u/D = 0.457 mm	Edge lift at selected diameter = 0.071

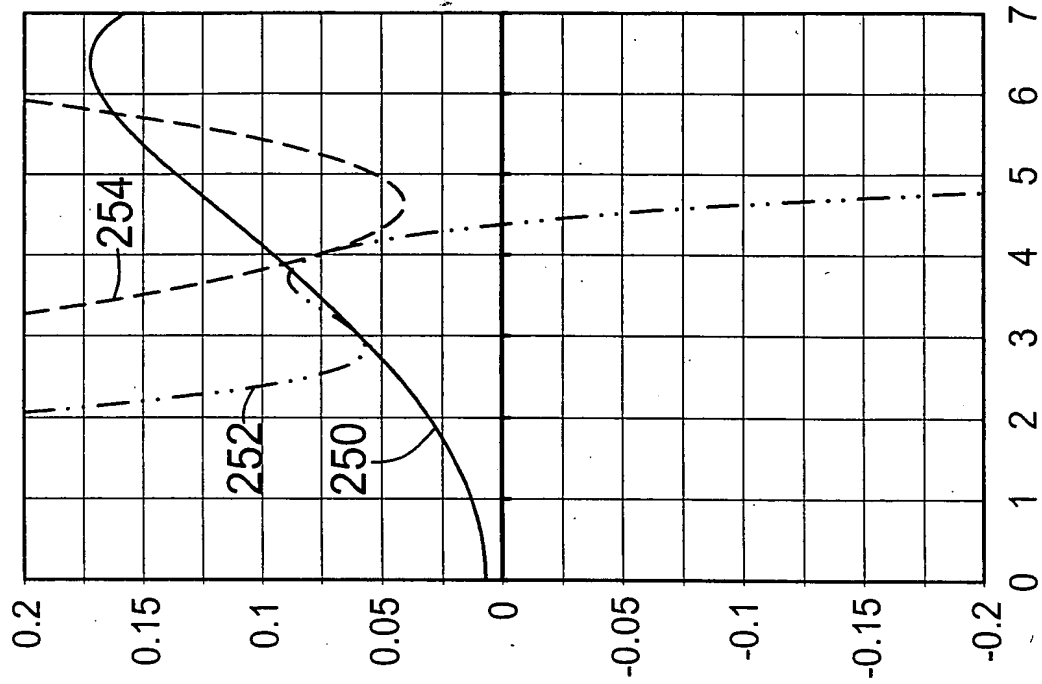
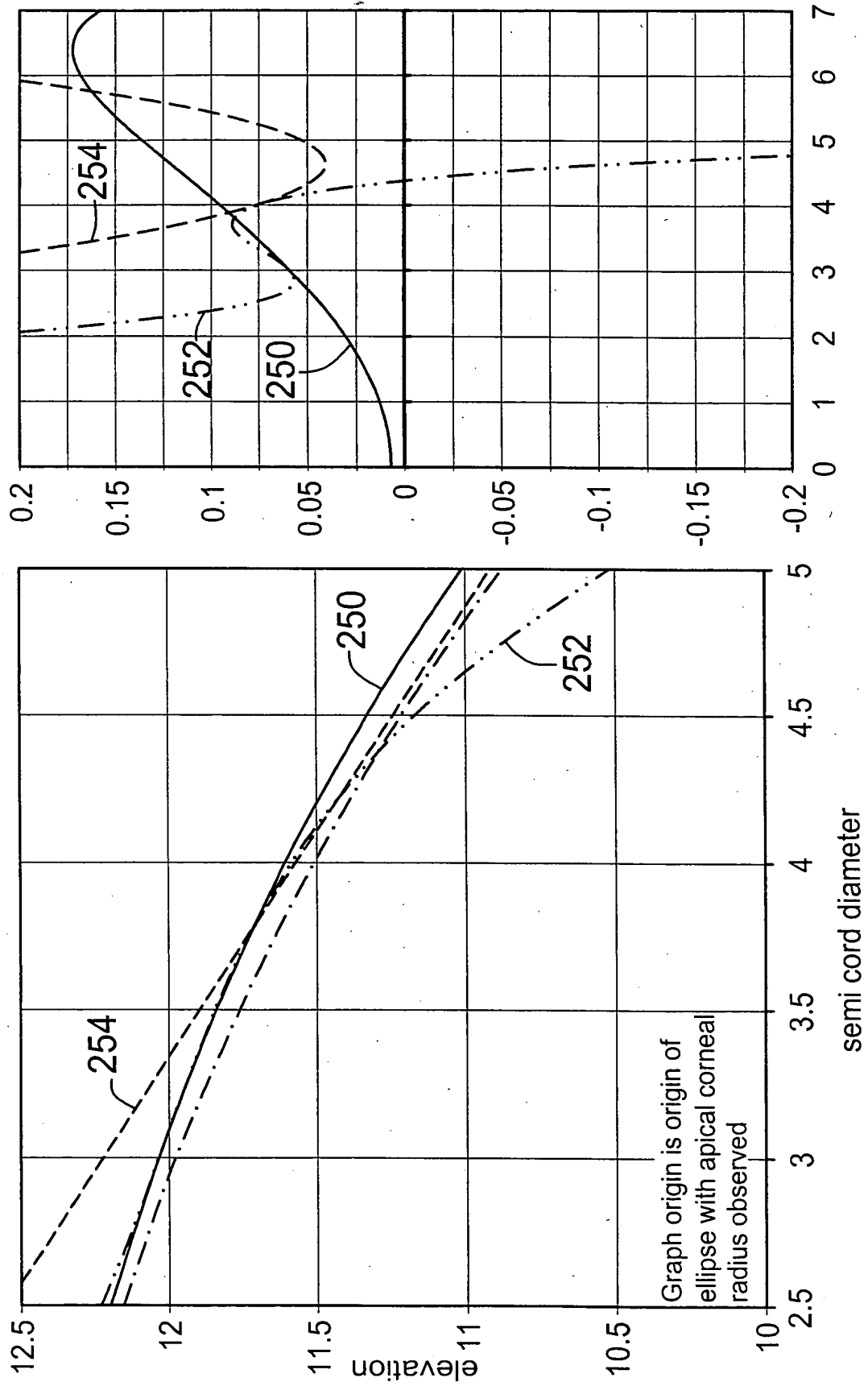


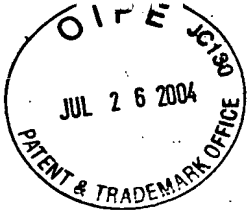
FIG. 14B

230			
BC			
J1	lens / cornea power (D) difference wanted	ellipticity of the cornea	HVID (mm)
SW	-4.00	0.6	11.4
MAT	Actual power (D) difference between bc and apical cornea = -4.11	Desired edge lift (mm) when landed at full Diameter = 0.08	1.45
P	Recommended diameter for lentic = 6.006	Ab, the long axis of the ellipse creating the base curve edge (below)	FOR SPHERICAL FRONTS target edge thickness (below)
$\Delta 1$	Recommended radius of curve for lentic = 8.457	0.40	0.18
$\Delta 2$	Origin for lentic curve is on y axis displaced from apex of front curve = 8.430	Af, the long axis of the ellipse creating the front curve edge (below)	SPHERICAL FRONTS-max thickness peripheral to J1 before lentic (in mm>Delta 2) see below
A	Estimated elevation at J2 = 0.075	0.40	0.01
D	fixed (tear thickness)	base to front at which the transition from base ellipse to front ellipse is found (below)	Minimum thickness peripheral to J1 before lentic (in mm>Delta 1) see below
SD	0.006	0.25	0.01



FIG. 15

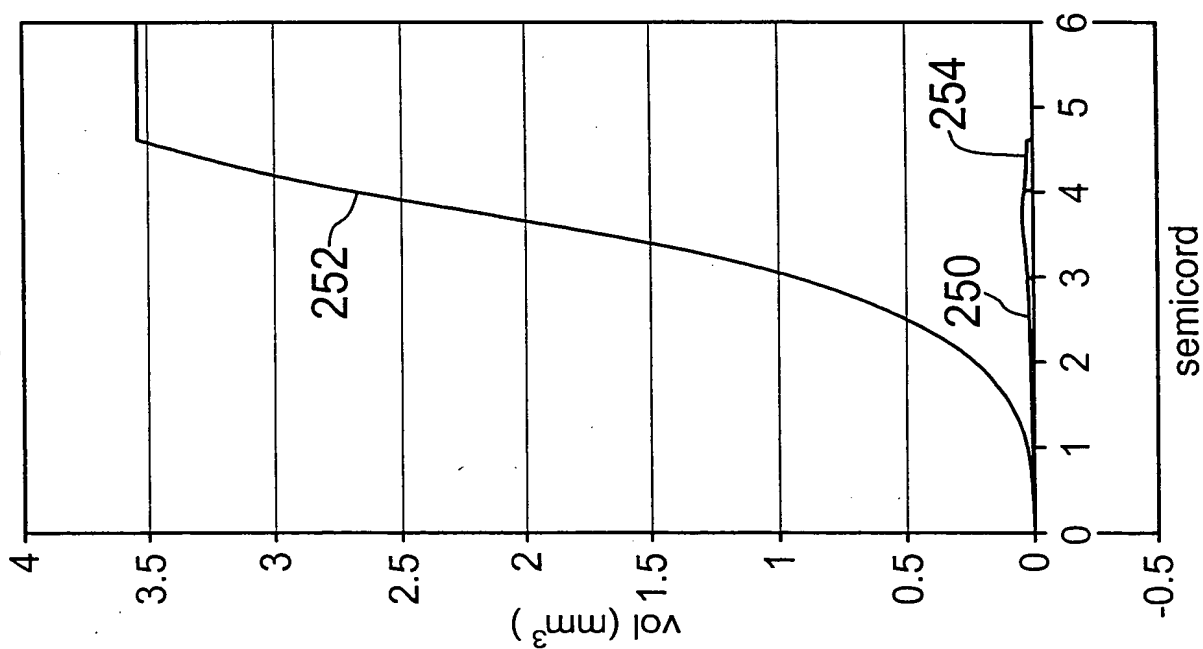




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FIG. 16

individual & cumulative volumes
under lens



individual & cumulative volumes under lens

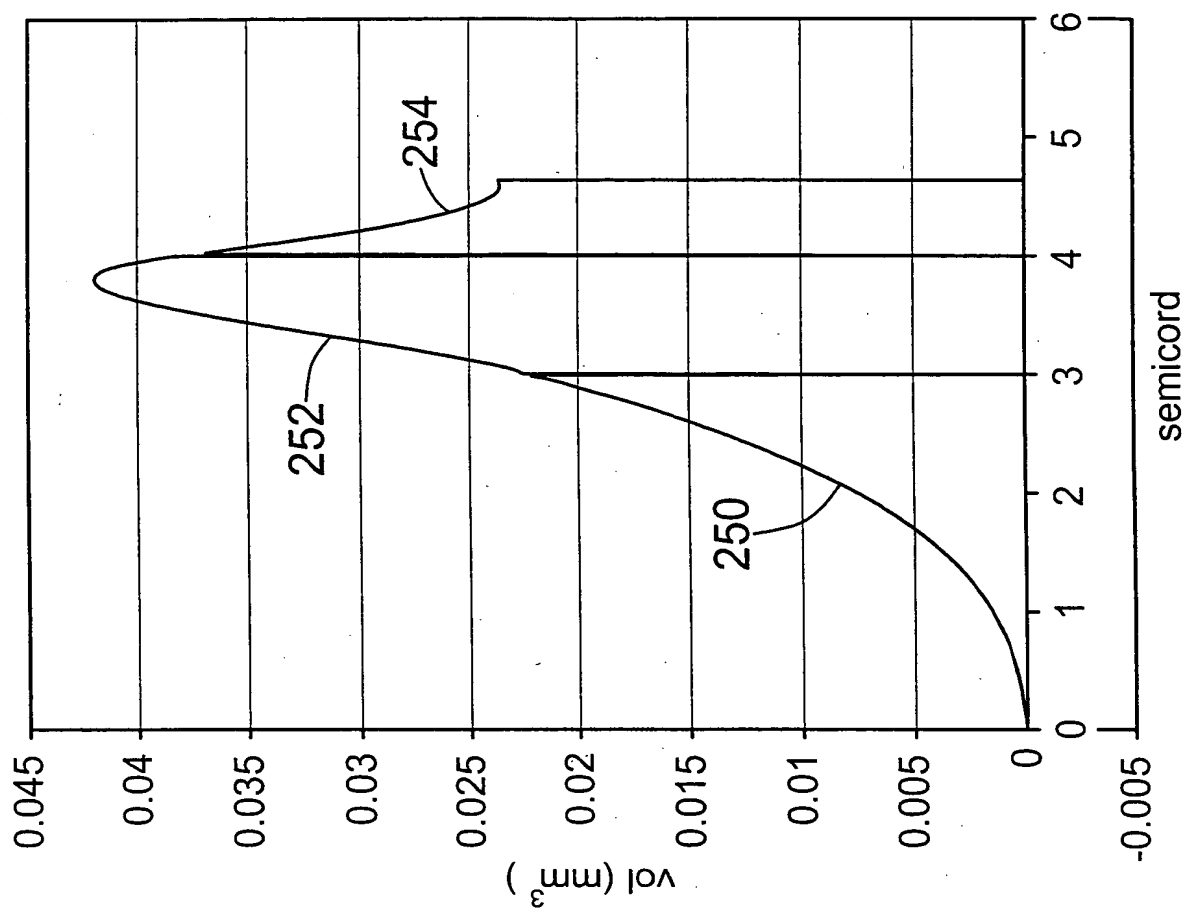
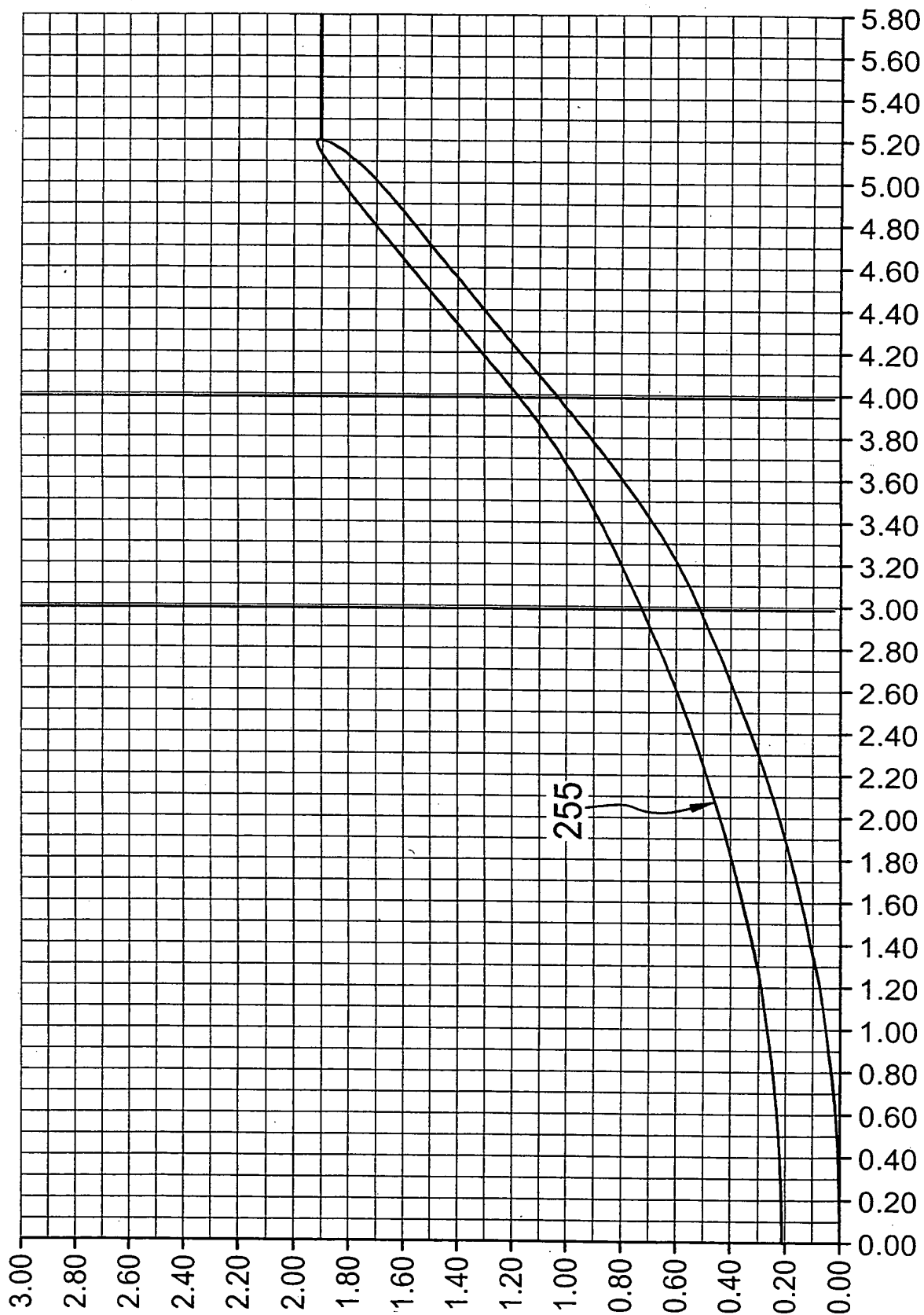




FIG. 17





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FIG. 18

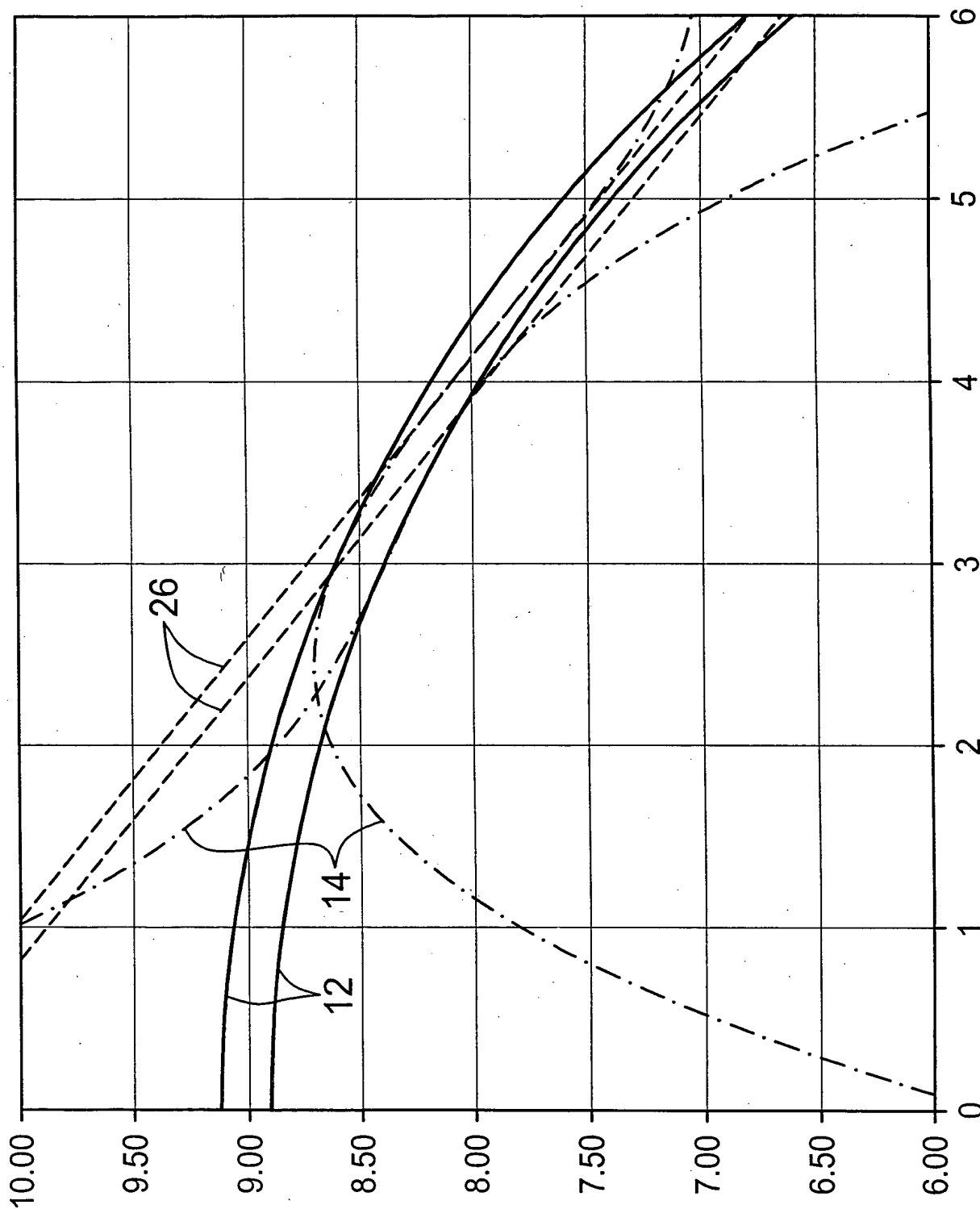




FIG. 19A

BC	selected bc (6.9-10.4/0.1) x (7.70-9.1/.05)	8.35	Suggested Base Curve is 8.3	
J1	Radial distance (OZ/2) from the lens center to 1st junction mm (1.0-5.9/0.1)	210 2.50	3B	corneal apical radius (mm)
SW	Width of the S curve mm (.75,1)	2.00	EYE	7.25
MAT	212 Lens material (FP30, FP60, FP92, FP151, HDS, Other)	HDS	Ref. Index of material used = 1.449 If 'other' was selected input R1 in Cell H4	Volume between BC and cornea (uL) = 0.699
P	lens power desired (-1.00, -0.50, 0.00, 0.50, 0.75, 1.0, 1.25, 1.5, 2.0, 2.5)	214 0.50	Front Surface central radius = 8.32	Volume between S curve and cornea (uL) = 2.812
Δ1	Delta R (mm) translation of 1st junction radially from BC origin (0.08-0.2/0.02)	0.14	True center thickness (mm) = 0.148	Volume between pretouch Landing Zone and cornea (uL) = 0.122
Δ2	Delta R (mm) translation of 2nd junction radially from BC origin (0.1-0.22/0.02)	0.18	True offset between landing zones at J2 = 0.179	TOTAL VOLUME = 3.633(uL)
A	Angle of the landing zone (-25.5 to -50.0/.5)	-38.00	Present lens height (mm) above cornea at diameter of tangential touch = 0.038	Diameter where LZ would make tangential touch = 9.21
D	selected lens diameter mm (8.0-12.9/0.1)	10.20	Diameter recommended from HVID = 10.2	Dia giving desired LZ lift = 10.53
SD	Selected depth of the S curve mm (.15-1.0/.05) x (0.3-0.65/.025) use next smaller than est.	1.116	Recommended depth (mm) S curve for desired correction @6u/D = 1.116 mm	Edge lift at selected diameter = 0.071

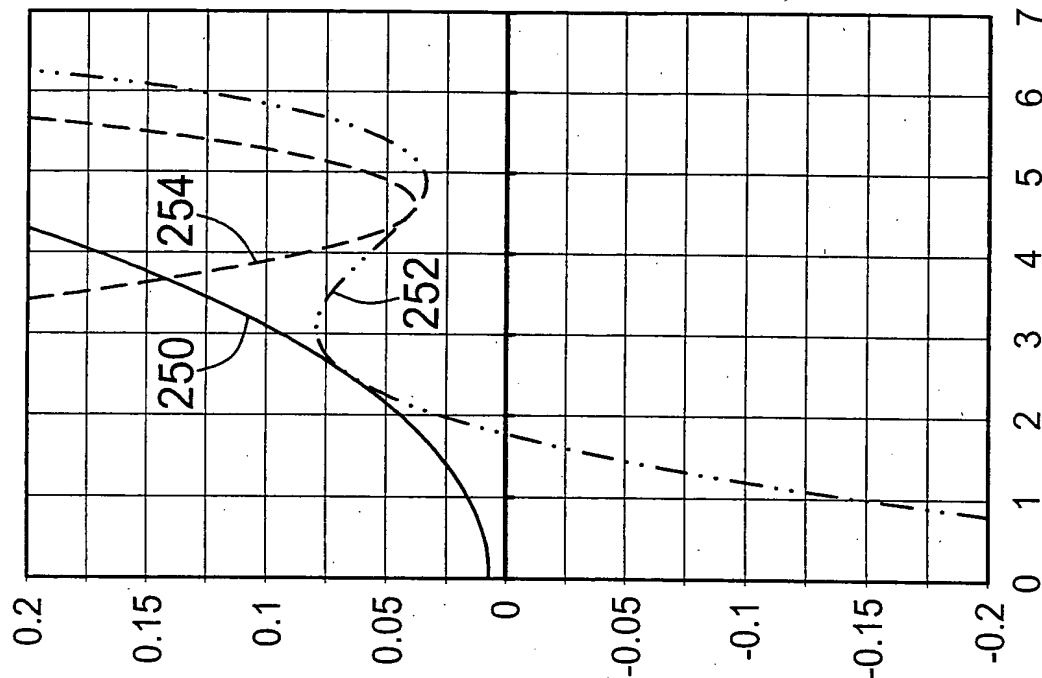
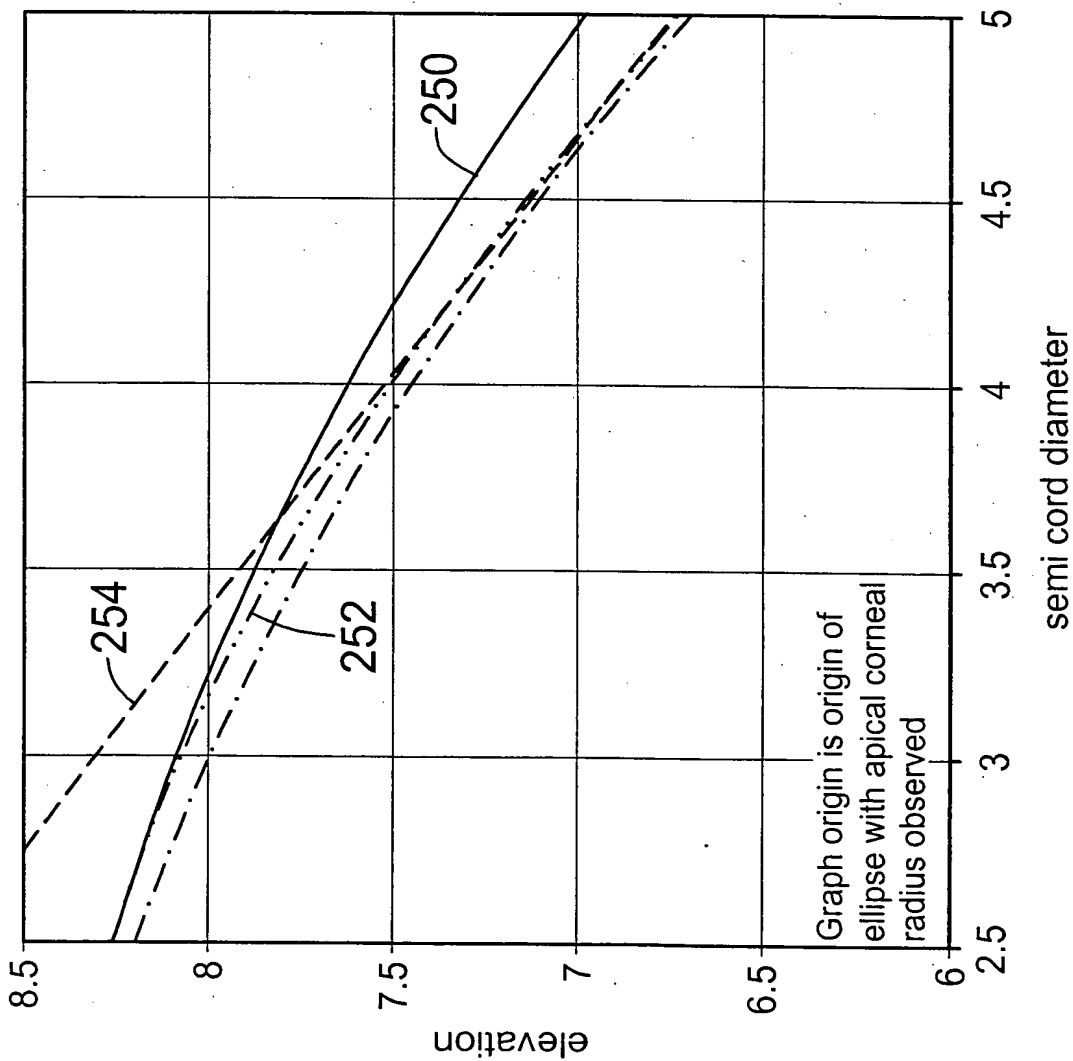


FIG. 19B

BC			
200			
202			
204			
J1	lens / cornea power (D) difference wanted	ellipticity of the cornea	HVID (mm)
SW	-6.12	0.4	11.2
MAT	Actual power (D) difference between bc and apical cornea = -6.13	Desired edge lift (mm) when landed at full Diameter = 0.09272	1.45
P	Recommended diameter for lentic = 6.784	Ab, the long axis of the ellipse creating the base curve edge (below)	FOR SPHERICAL FRONTS target edge thickness (below)
$\Delta 1$	Recommended radius of curve for lentic = 7.615	0.40	0.18
$\Delta 2$	Origin for lentic curve is on y axis displaced from apex of front curve = 7.541	Af, the long axis of the ellipse creating the front curve edge (below)	SPHERICAL FRONTS-max thickness peripheral to J1 before lentic (in mm>Delta 2) see below
A	Estimated elevation at J2 = 0.040	0.40	0.01
D	fixed (tear thickness)	base to front at which the transition from base ellipse to front ellipse is found (below)	Minimum thickness peripheral to J1 before lentic (in mm>Delta 1) see below
SD	0.006	0.25	0.01



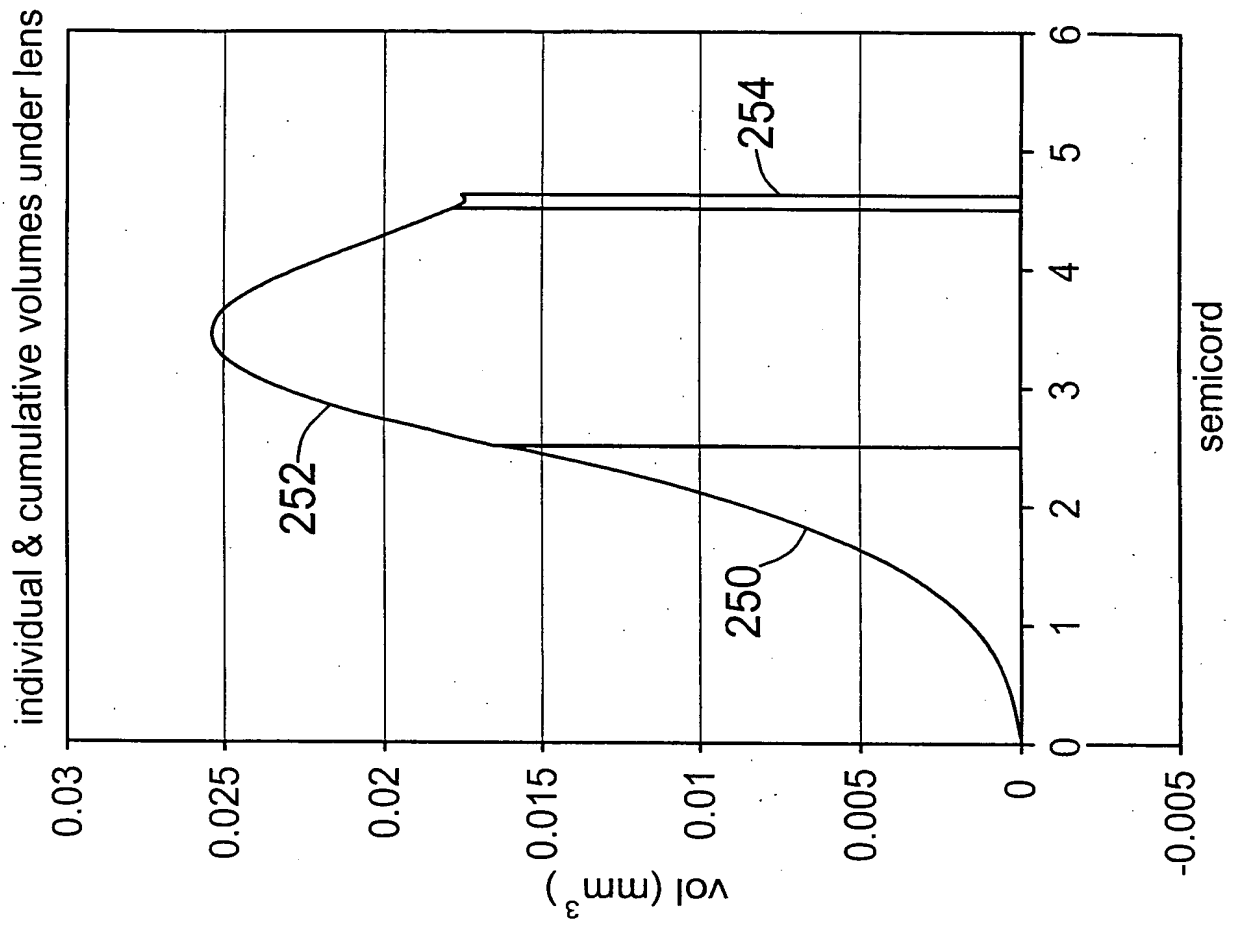
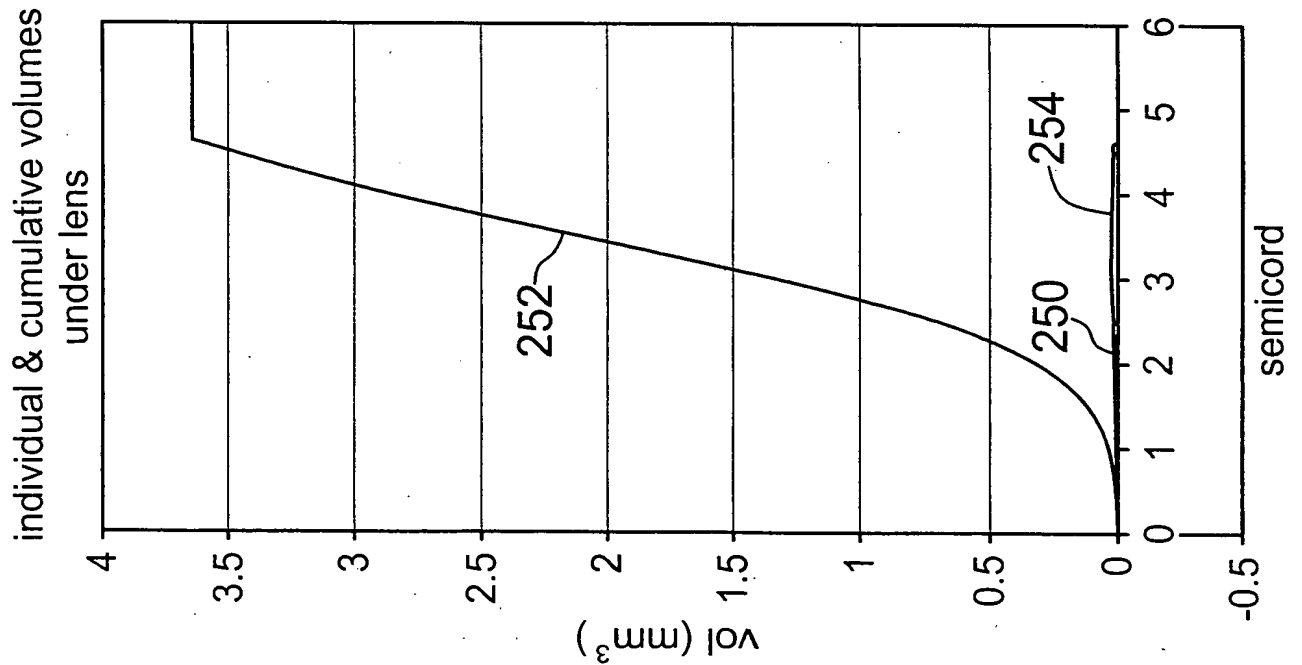
FIG. 20

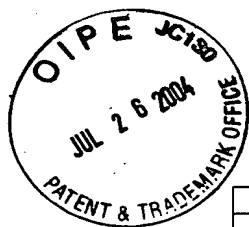




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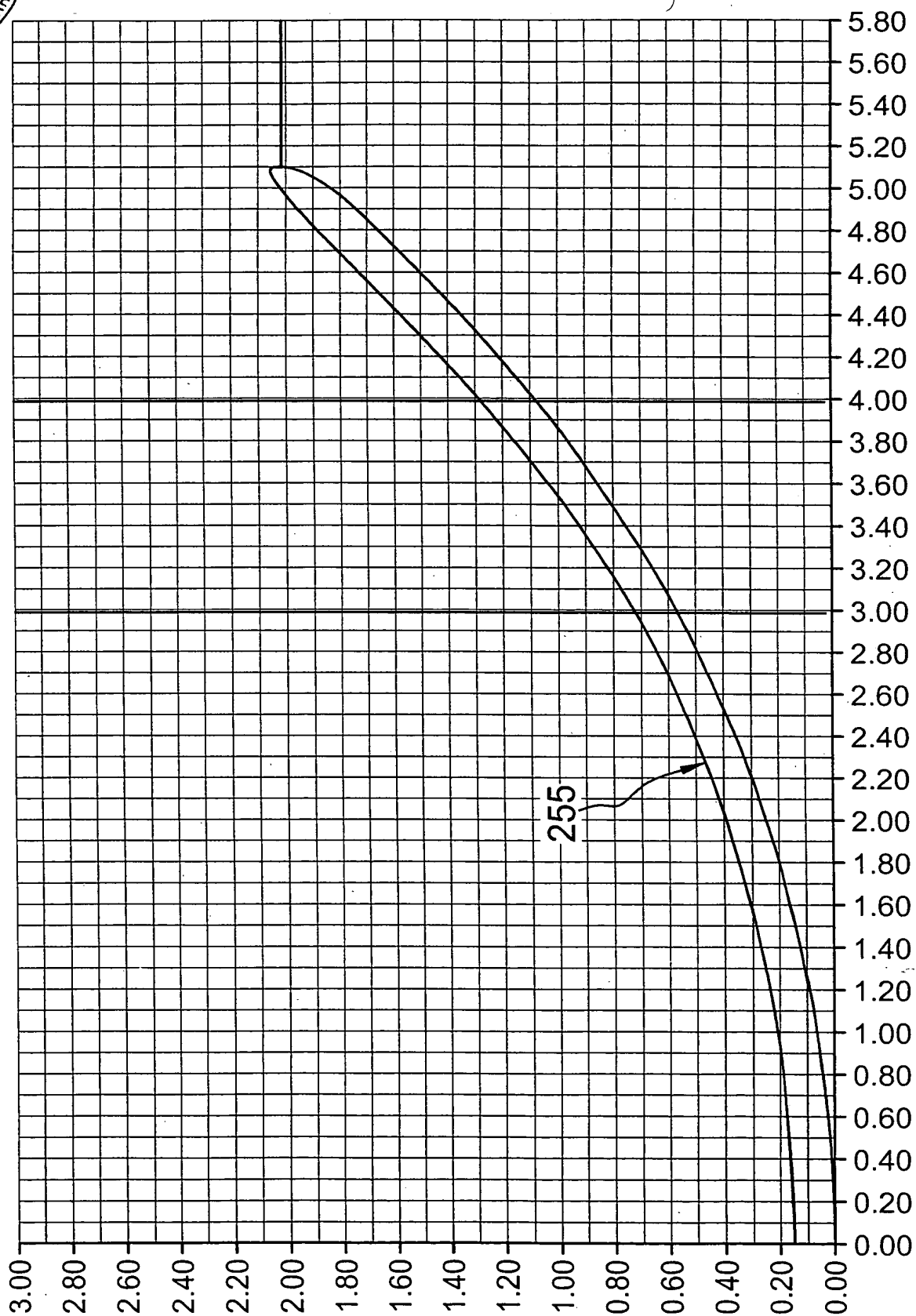
FIG. 21





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FIG. 22





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FIG. 23

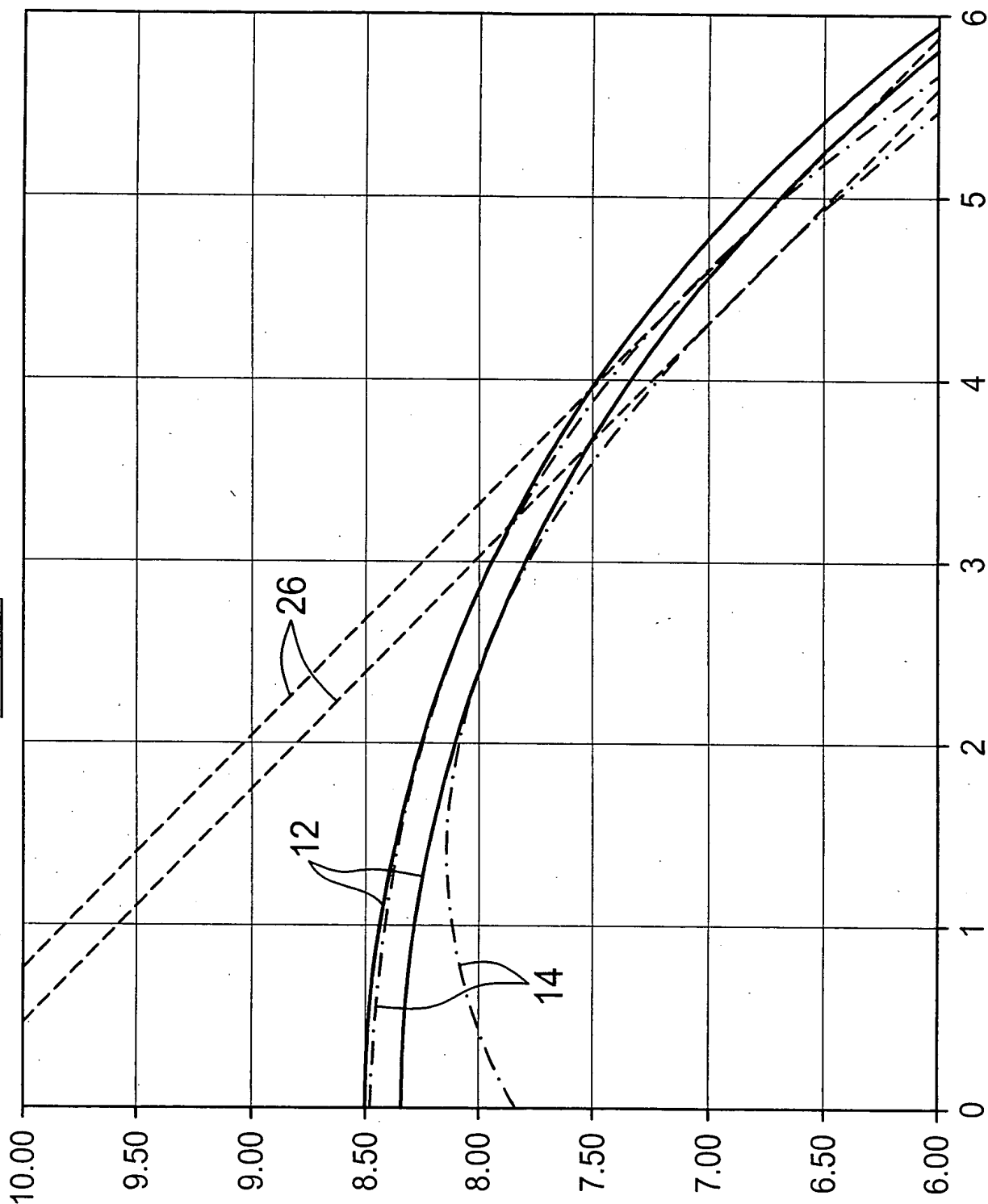




FIG. 24A

BC	selected bc (6.9-10.4/0.1) x (7.70-9.1/.05)	9.30	Suggested Base Curve is 9.3	
J1	Radial distance (OZ/2) from the lens center to 1st junction mm (1.0-5.9/0.1)	3.00	4B	corneal apical radius (mm)
SW	Width of the S curve mm (.75,1)	1.00	EYE	8.13
MAT	Lens material (FP30, FP60, FP92, FP151, HDS, Other)	HDS	Ref. Index of material used = 1.449 If 'other' was selected input R1 in Cell H4	Volume between BC and cornea (uL) = 1.213
P	lens power desired (-1.00, -0.50, 0.00, 0.50, 0.75, 1.0, 1.25, 1.5, 2.0, 2.5)	0.50	Front Surface central radius = 9.24	Volume between S curve and cornea (uL) = 2.389
$\Delta 1$	Delta R (mm) translation of 1st junction radially from BC origin (0.08-0.2/0.02)	<u>222</u> 0.08	True center thickness (mm) = 0.088	Volume between pretouch Landing Zone and cornea (uL) = 1.360
$\Delta 2$	Delta R (mm) translation of 2nd junction radially from BC origin (0.1-0.22/0.02)	<u>242</u> 0.22	True offset between landing zones at J2 = 0.217	TOTAL VOLUME = 4.963(uL)
A	Angle of the landing zone (-25.5 to -50.0/.5)	-35.00	Present lens height (mm) above cornea at diameter of tangential touch = 0.050	Diameter where LZ would make tangential touch = 9.47
D	selected lens diameter mm (8.0-12.9/0.1)	<u>209</u> 10.90	Diameter recommended from HVID = 10.9	Dia giving desired LZ lift = 10.69
SD	Selected depth of the S curve mm (.15-1.0/.05) x (0.3-0.65/.025) use next smaller than est.	0.450	Recommended depth (mm) S curve for desired correction @6u/D = 0.462 mm	Edge lift at selected diameter = 0.107

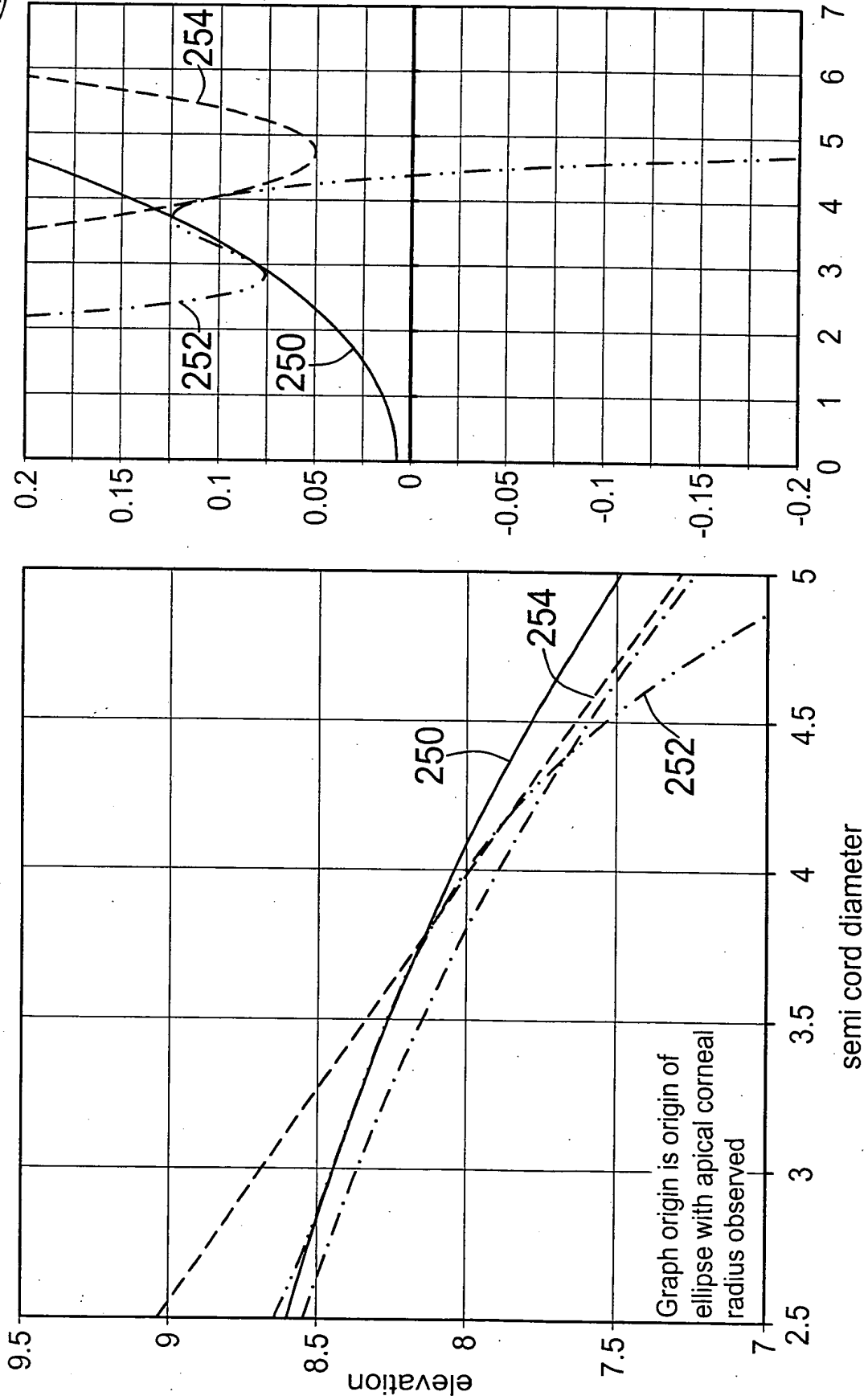


FIG. 24B

BC			
J1	lens / cornea power (D) difference wanted	ellipticity of the cornea	HVID (mm)
SW	-5.25	0.3	11.9
MAT	Actual power (D) difference between bc and apical cornea = -5.22	Desired edge lift (mm) when landed at full Diameter = 0.0875	1.45
P	Recommended diameter for lentic = 9.791	Ab, the long axis of the ellipse creating the base curve edge (below)	FOR SPHERICAL FRONTS target edge thickness (below)
$\Delta 1$	Recommended radius of curve for lentic = 10.059	243 244 2.00	0.18
$\Delta 2$	Origin for lentic curve is on y axis displaced from apex of front curve = 10.191	Af, the long axis of the ellipse creating the front curve edge (below)	SPHERICAL FRONTS-max thickness peripheral to J1 before lentic (in mm>Delta 2) see below
A	Estimated elevation at J2 = 0.106	2.00	0.01
D	fixed (tear thickness)	base to front at which the transition from base ellipse to front ellipse is found (below)	Minimum thickness peripheral to J1 before lentic (in mm>Delta 1) see below
SD	0.006	245 0.40	0.01



FIG. 25

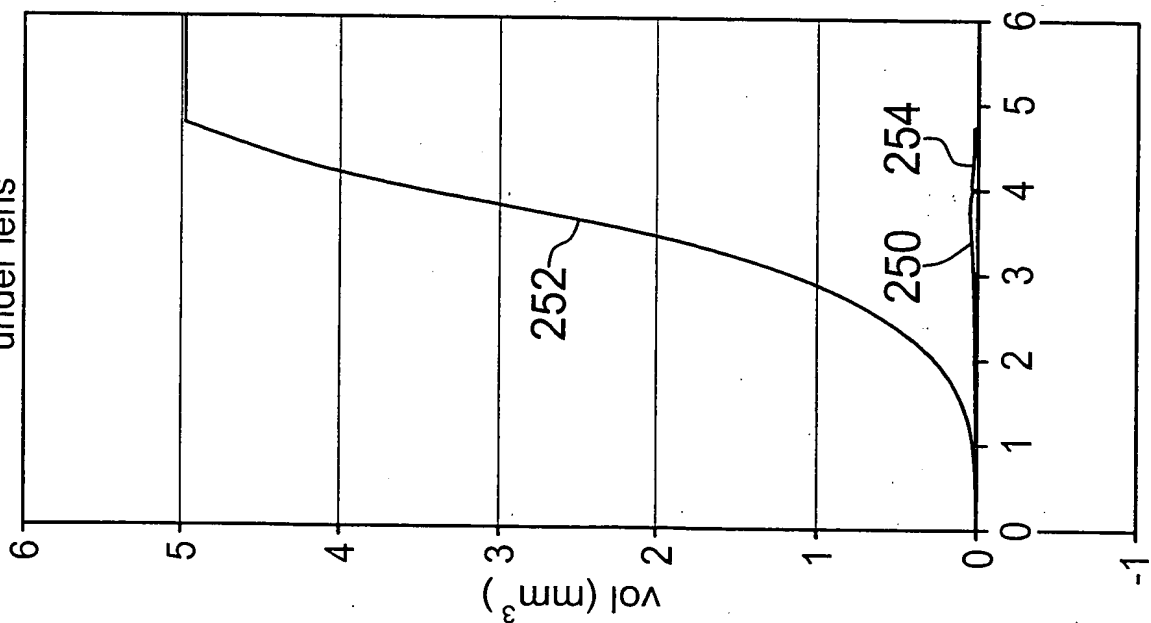




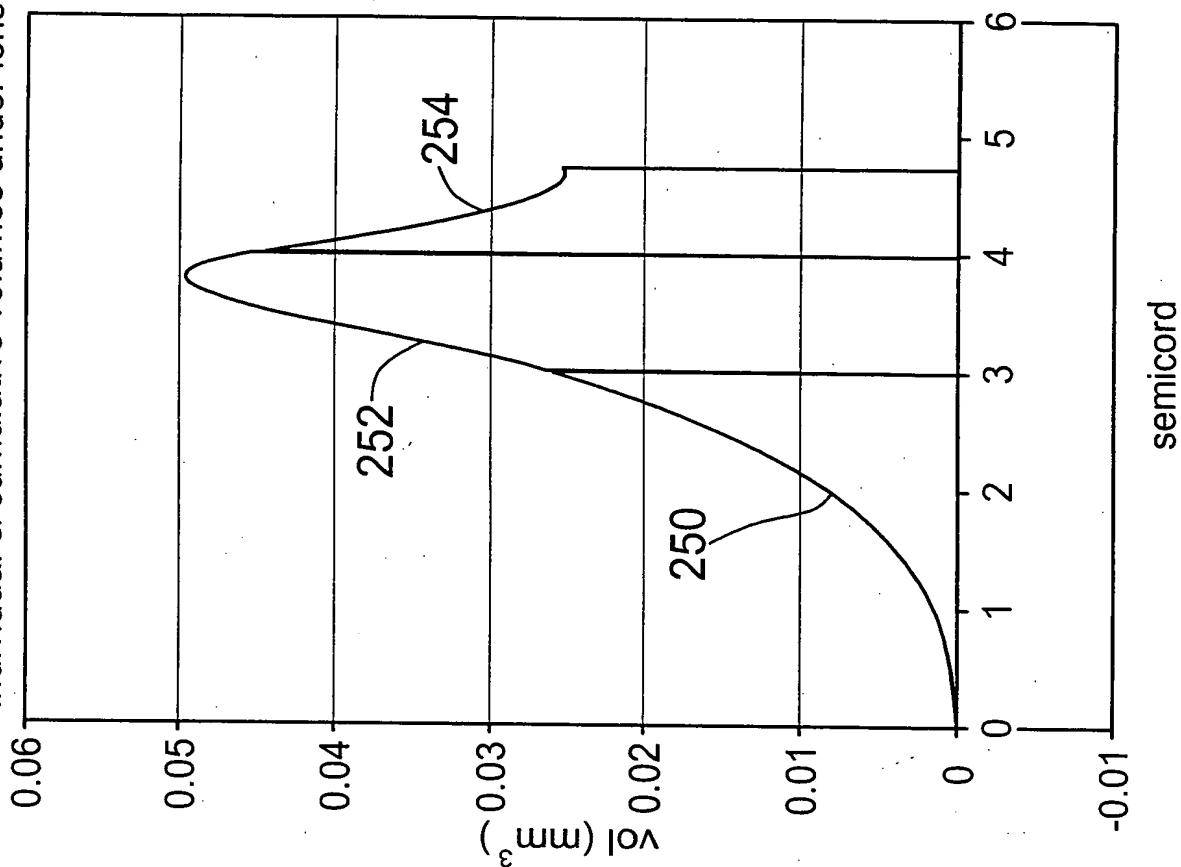
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FIG. 26

individual & cumulative volumes
under lens



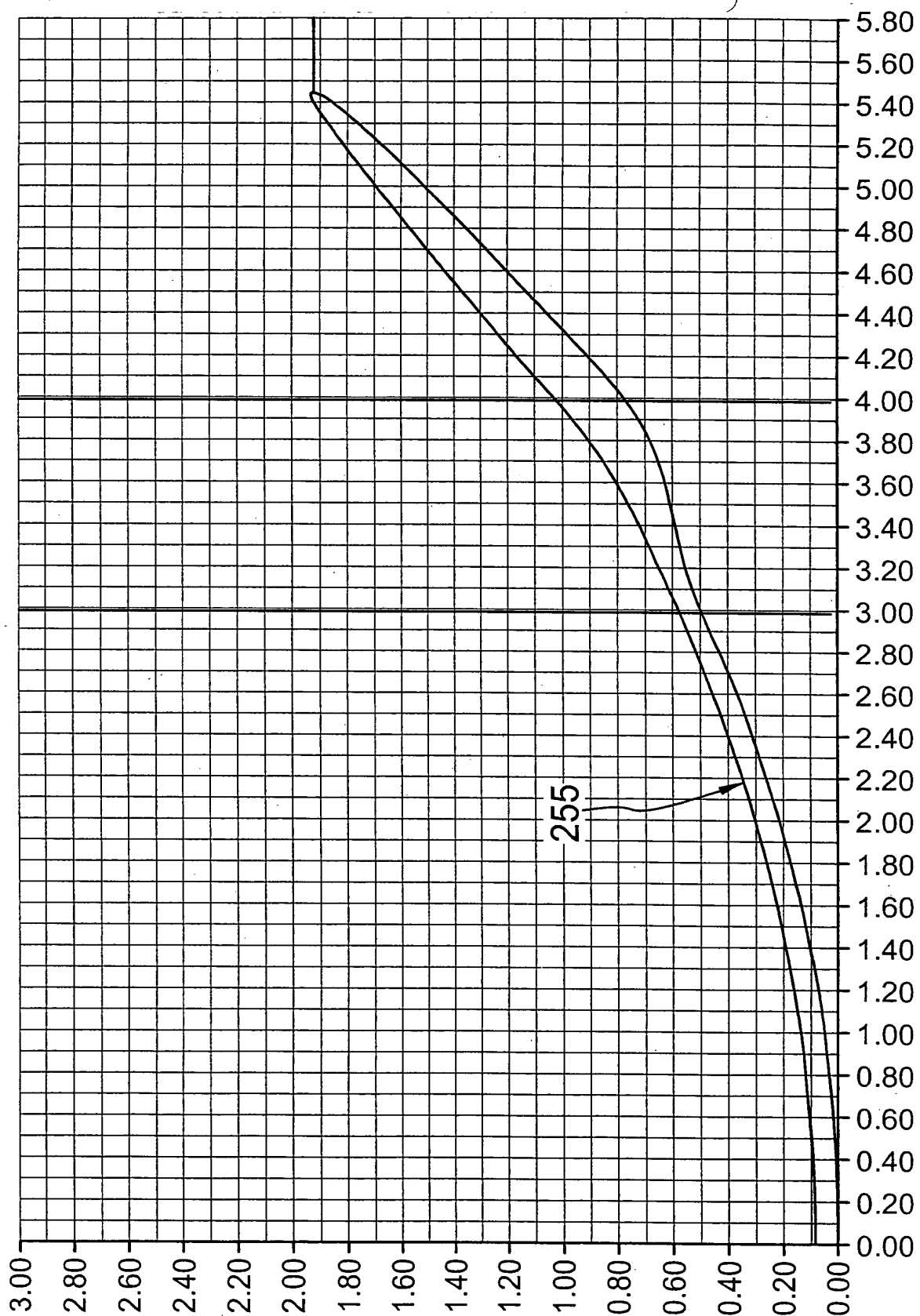
individual & cumulative volumes under lens





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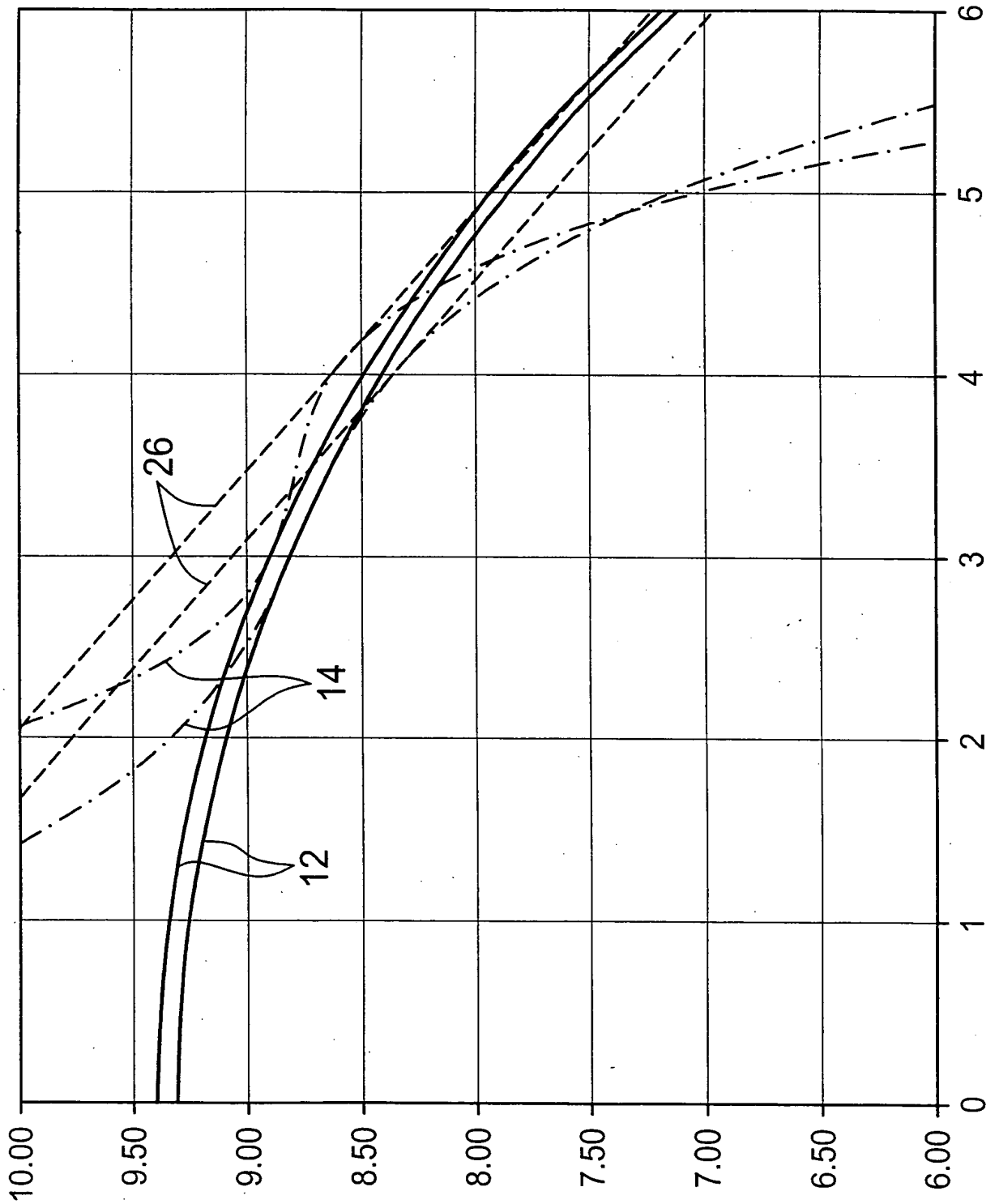
FIG. 27





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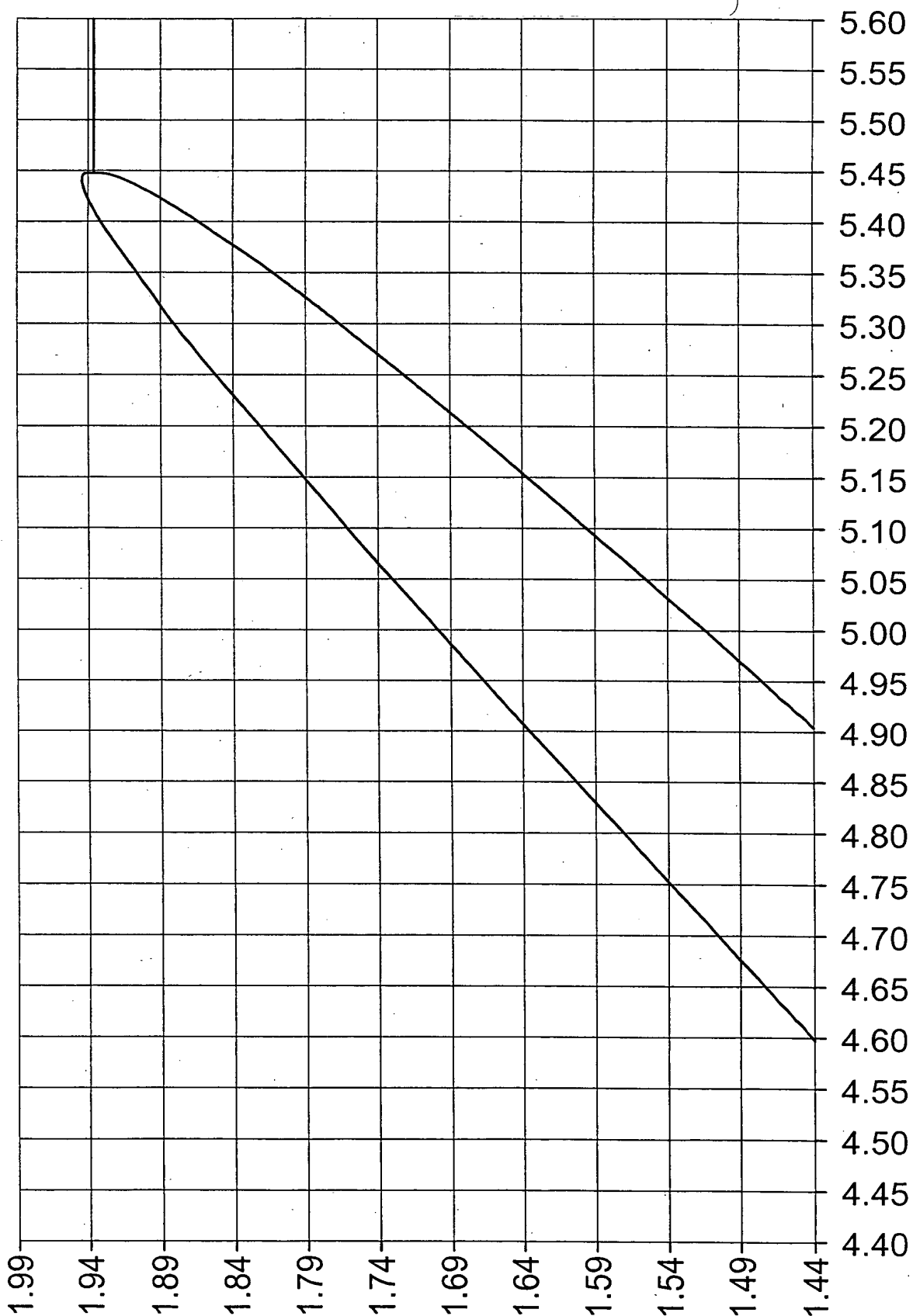
FIG. 28





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FIG. 29



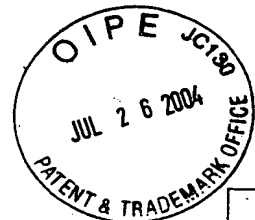


FIG. 30A

BC	selected bc (6.9-10.4/0.1) x (7.70-9.1/.05)	8.40	Suggested Base Curve is 8.4	
J1	Radial distance (OZ/2) from the lens center to 1st junction mm (1.0-5.9/0.1)	3.00	5B	corneal apical radius (mm)
SW	Width of the S curve mm (.75,1)	1.00	EYE	7.75
MAT	Lens material (FP30, FP60, FP92, FP151, HDS, Other)	HDS	Ref. Index of material used = 1.449 If 'other' was selected input R1 in Cell H4	Volume between BC and cornea (uL) = 0.748
P	lens power desired (-1.00, -0.50, 0.00, 0.50, 0.75, 1.0, 1.25, 1.5, 2.0, 2.5)	0.50	Front Surface central radius = 8.36	Volume between S curve and cornea (uL) = 1.195
$\Delta 1$	Delta R (mm) translation of 1st junction radially from BC origin (0.08-0.2/0.02)	<u>222</u> 0.10	True center thickness (mm) = 0.110	Volume between pretouch Landing Zone and cornea (uL) = 0.439
$\Delta 2$	Delta R (mm) translation of 2nd junction radially from BC origin (0.1-0.22/0.02)	<u>242</u> 0.10	True offset between landing zones at J2 = 0.100	TOTAL VOLUME = 2.382(uL)
A	Angle of the landing zone (-25.5 to -50.0/.5)	-32.50	Present lens height (mm) above cornea at diameter of tangential touch = 0.027	Diameter where LZ would make tangential touch = 8.99
D	selected lens diameter mm (8.0-12.9/0.1)	10.00	Diameter recommended from HVID = 10	Dia giving desired LZ lift = 10.59
SD	Selected depth of the S curve mm (.15-1.0/.05) x (0.3-0.65/.025) use next smaller than est.	0.475	Recommended depth (mm) S curve for desired correction @6u/D = 0.478 mm	Edge lift at selected diameter = 0.048



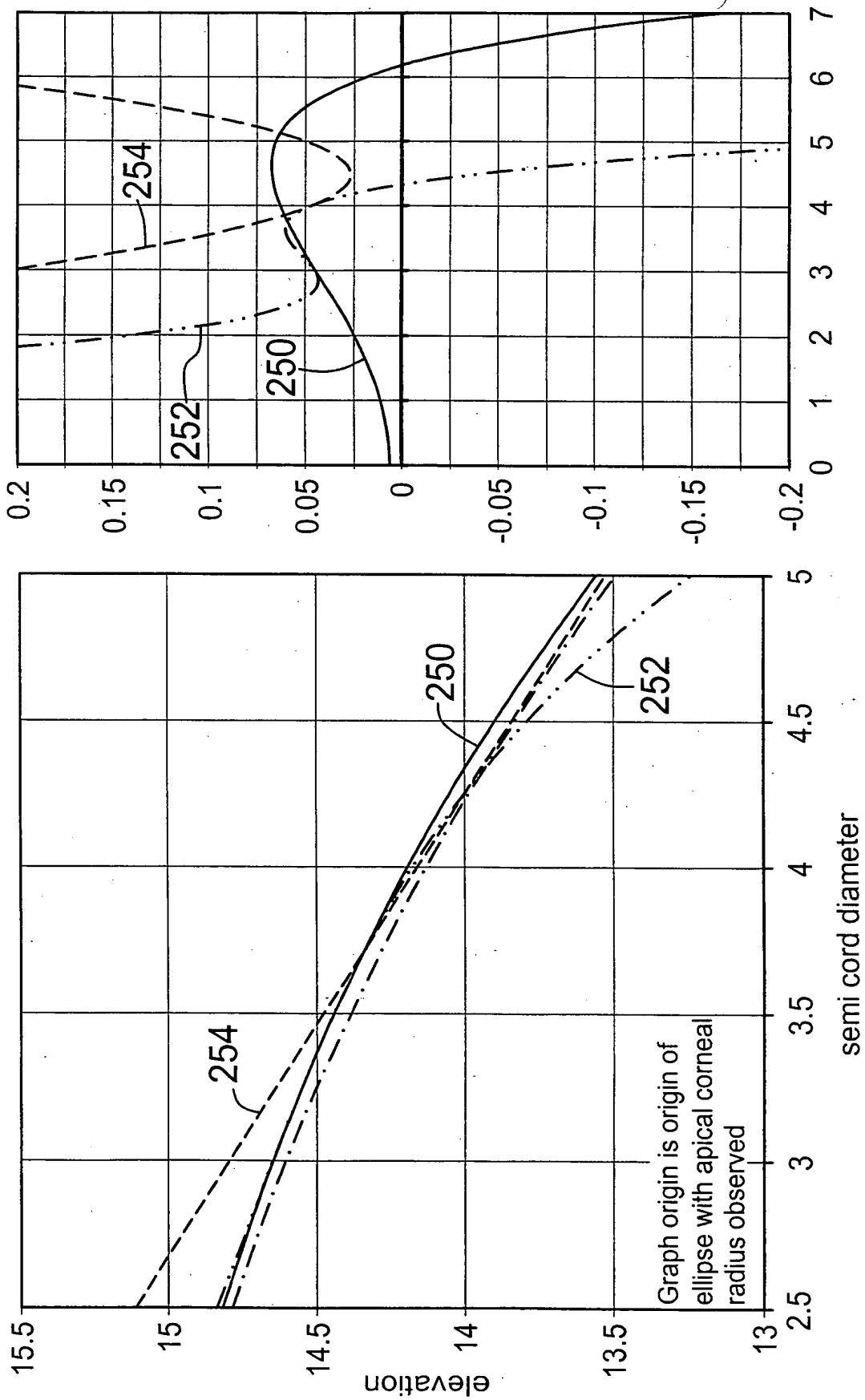
FIG. 30B

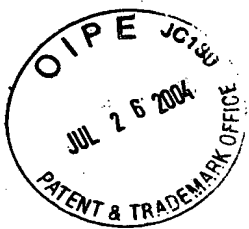
BC			
J1	lens / cornea power (D) difference wanted	ellipticity of the cornea	HVID (mm)
SW	-3.50	0.7	11
MAT	Actual power (D) difference between bc and apical cornea = -3.37	Desired edge lift (mm) when landed at full Diameter = 0.077	1.45
P	Recommended diameter for lentic = 7.735	Ab, the long axis of the ellipse creating the base curve edge (below)	FOR SPHERICAL FRONTS target edge thickness (below)
$\Delta 1$	Recommended radius of curve for lentic = 9.295	0.40	0.18
$\Delta 2$	Origin for lentic curve is on y axis displaced from apex of front curve = 9.400	Af, the long axis of the ellipse creating the front curve edge (below)	SPHERICAL FRONTS-max thickness peripheral to J1 before lentic (in mm>Delta 2) see below
A	Estimated elevation at J2 = 0.047	0.40	0.01
D	fixed (tear thickness)	base to front at which the transition from base ellipse to front ellipse is found (below)	Minimum thickness peripheral to J1 before lentic (in mm>Delta 1) see below
SD	0.006	0.25	0.01



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FIG. 31

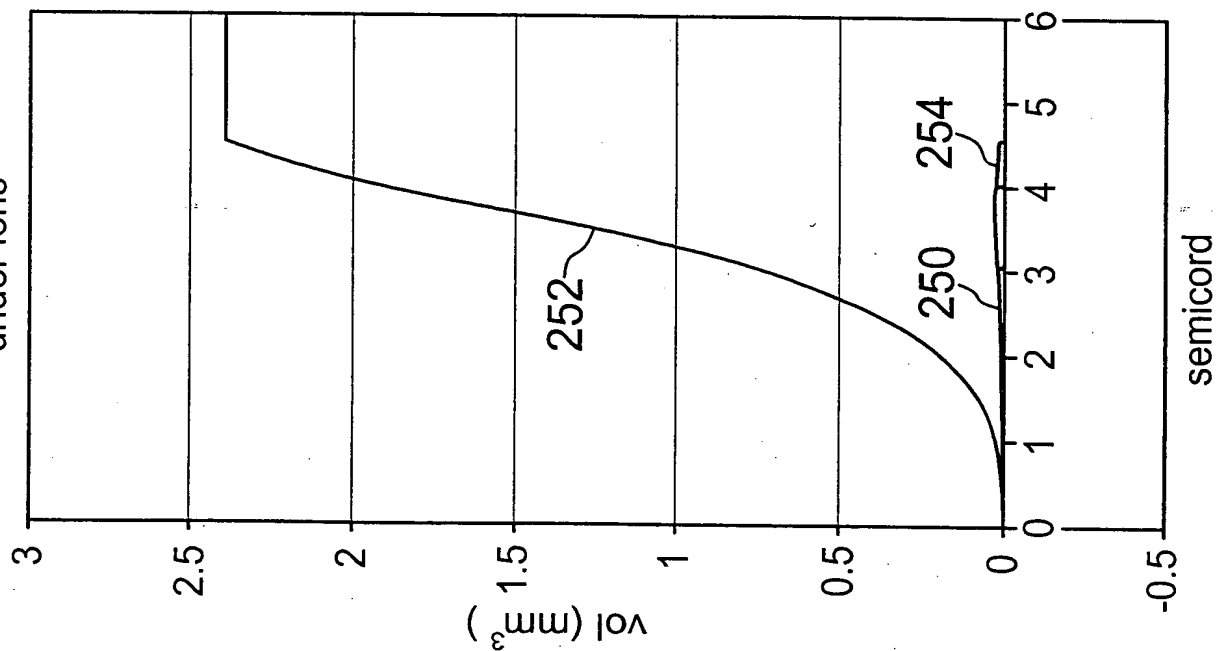




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FIG. 32

individual & cumulative volumes
under lens



individual & cumulative volumes under lens

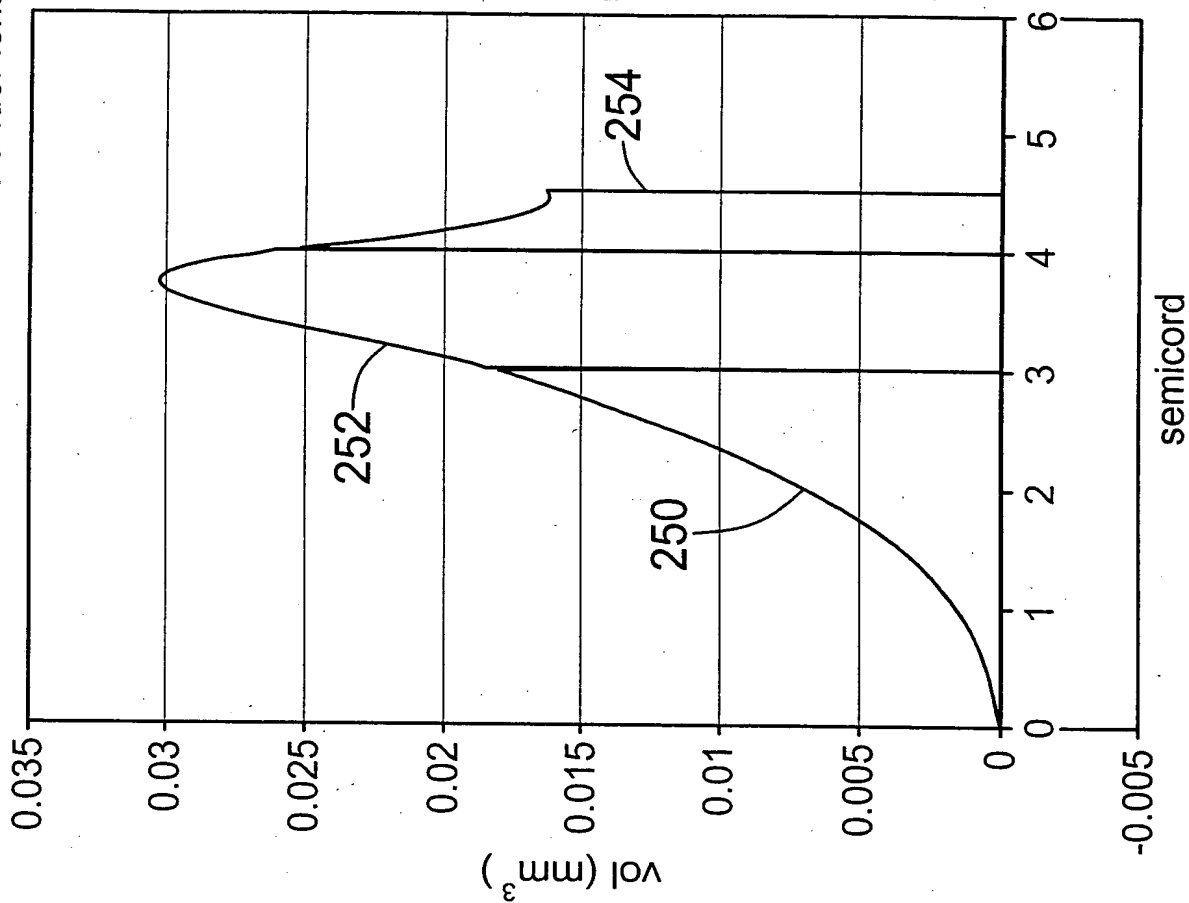
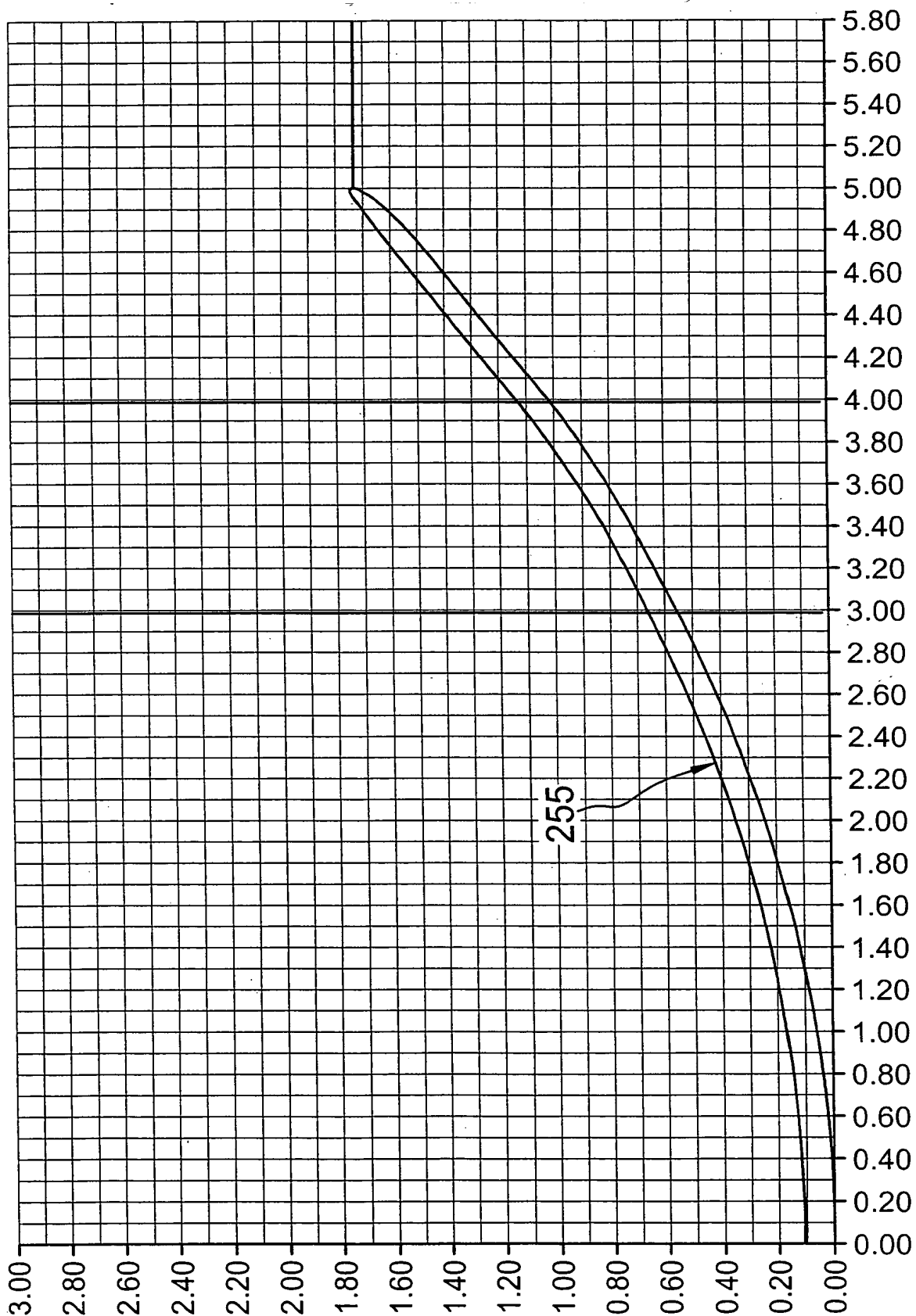




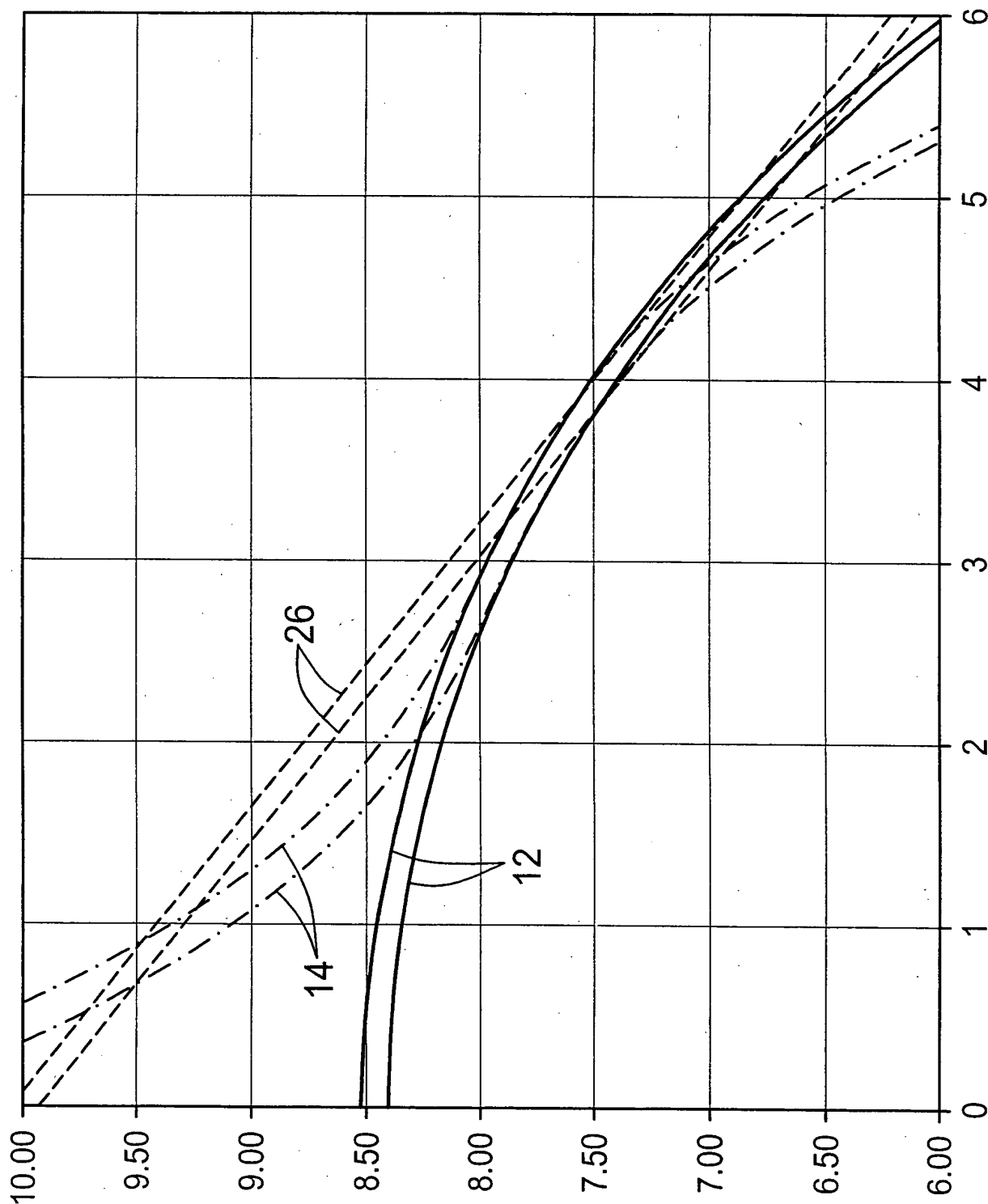
FIG. 33





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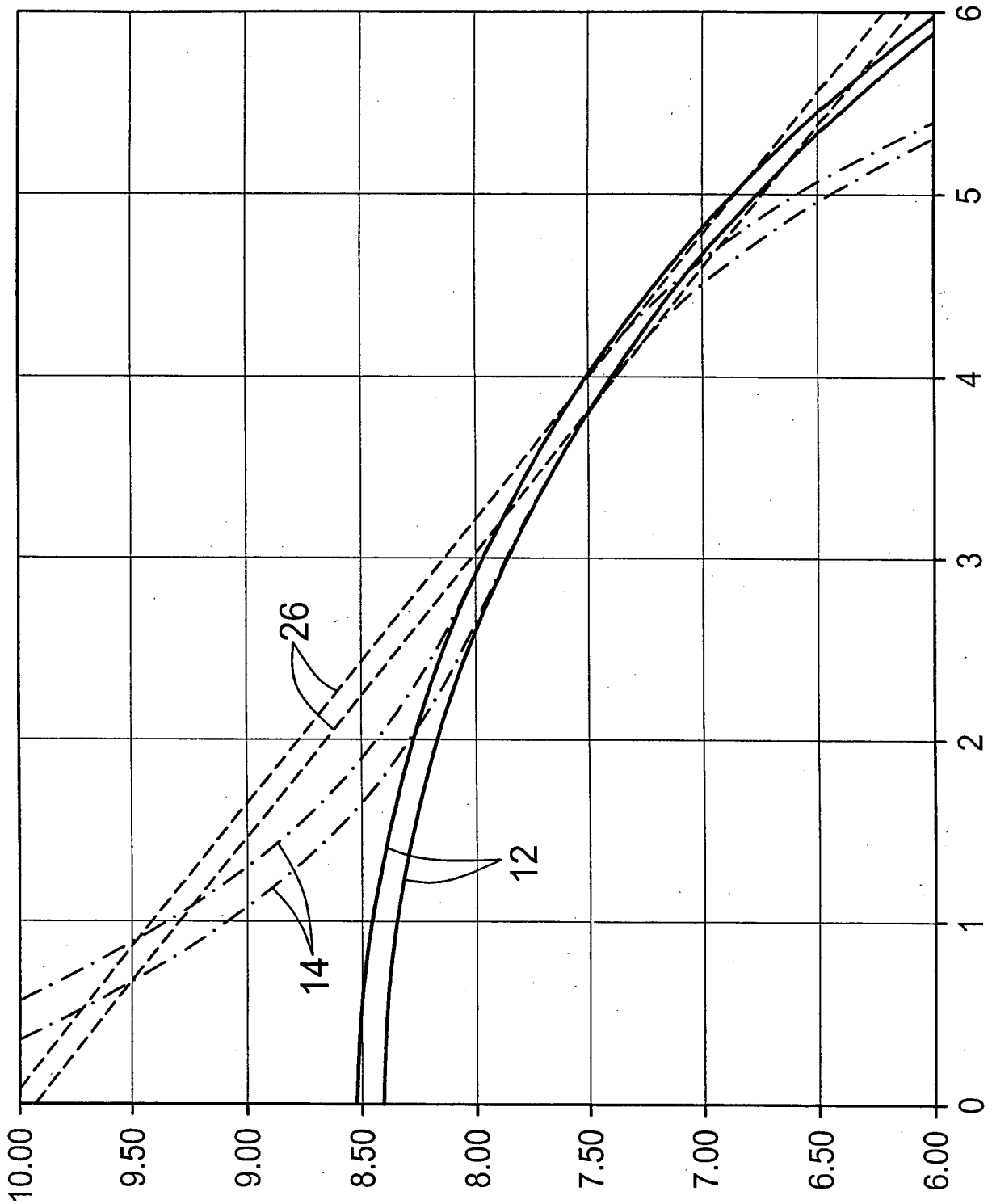
FIG. 34





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FIG. 34



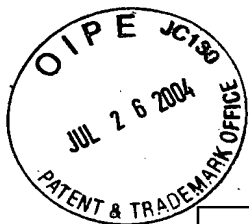


FIG. 35A

BC	selected bc (6.9-10.4/0.1) x 208 (7.70-9.1/0.05)	7.50	Suggested Base Curve is 7.5	
J1	Radial distance (OZ/2) from the lens center to 1st junction mm (1.0-5.9/0.1)	210 2.50	5B	corneal apical radius (mm)
SW	Width of the S curve mm (.75,1)	1.50	EYE	7.8
MAT	Lens material (FP30, FP60, FP92, FP151, HDS, Other)	HDS	Ref. Index of material used = 1.449 If 'other' was selected input R1 in Cell H4	Volume between BC and cornea (uL) = 0.298
P	lens power desired (-1.00, -0.50, 0.00, 0.50, 0.75, 1.0, 1.25, 1.5, 2.0, 2.5)	0.50	Front Surface central radius = 7.49	Volume between S curve and cornea (uL) = 1.383
Δ1	Delta R (mm) translation of 1st junction radially from BC origin (0.08-0.2/0.02)	0.14	True center thickness (mm) = 0.149	Volume between pretouch Landing Zone and cornea (uL) = 0.491
Δ2	Delta R (mm) translation of 2nd junction radially from BC origin (0.1-0.22/0.02)	0.18	True offset between landing zones at J2 = 0.180	246 TOTAL VOLUME = 2.171(uL)
A	Angle of the landing zone (-25.5 to -50.0/5)	244 -35.00	Present lens height (mm) above cornea at diameter of tangential touch = 0.024	Diameter where LZ would make tangential touch = 9.08
D	selected lens diameter mm (8.0-12.9/0.1)	10.00	Diameter recommended from HVID = 10.9	Dia giving desired LZ lift = 10.52
SD	Selected depth of the S curve mm (.15-1.0/0.05) x (0.3-0.65/0.025) use next smaller than est.	0.636	Recommended depth (mm) S curve for desired correction @6u/D = 0.646 mm	Edge lift at selected diameter = 0.047

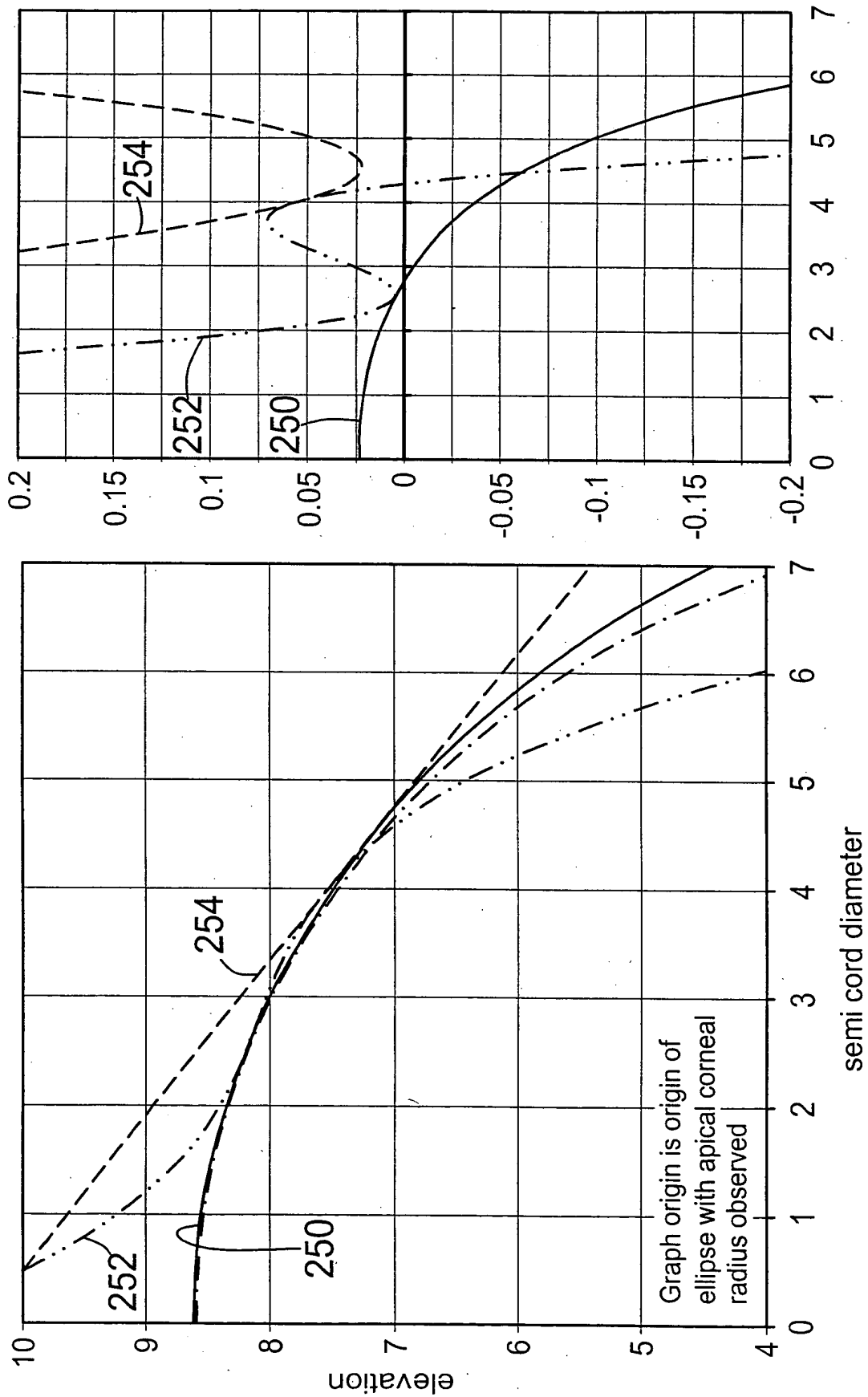


FIG. 35B

BC	200		
J1	lens / cornea power (D) difference wanted	ellipticity of the cornea	HVID (mm)
SW	2.00	0.3	11.9
MAT	Actual power (D) difference between bc and apical cornea = 1.73	Desired edge lift (mm) when landed at full Diameter = 0.062	1.45
P	Recommended diameter for lentic = 5.737	Ab, the long axis of the ellipse creating the base curve edge (below)	FOR SPHERICAL FRONTS target edge thickness (below)
$\Delta 1$	Recommended radius of curve for lentic = 8.482	0.40	0.18
$\Delta 2$	Origin for lentic curve is on y axis displaced from apex of front curve = 8.553	Af, the long axis of the ellipse creating the front curve edge (below)	SPHERICAL FRONTS-max thickness peripheral to J1 before lentic (in mm>Delta 2) see below
A	Estimated elevation at J2 = 0.056	0.40	0.01
D	fixed (tear thickness)	base to front at which the transition from base ellipse to front ellipse is found (below)	Minimum thickness peripheral to J1 before lentic (in mm>Delta 1) see below
SD	0.024	0.25	0.01



FIG. 36





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individual & cumulative volumes under lens

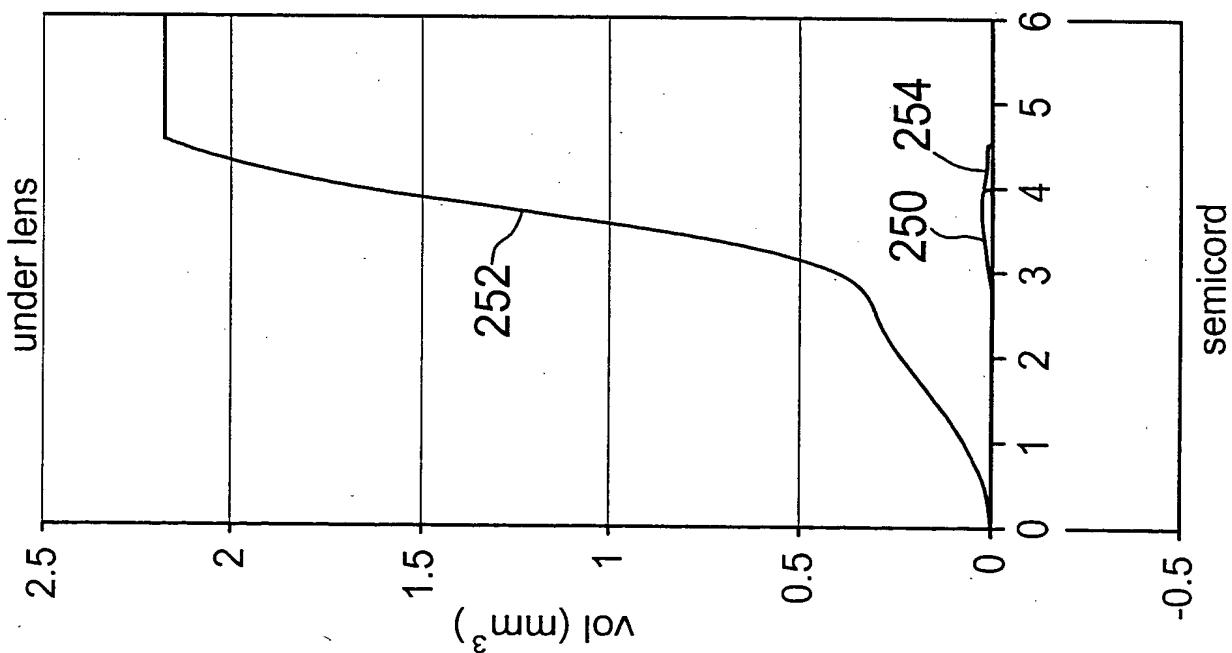
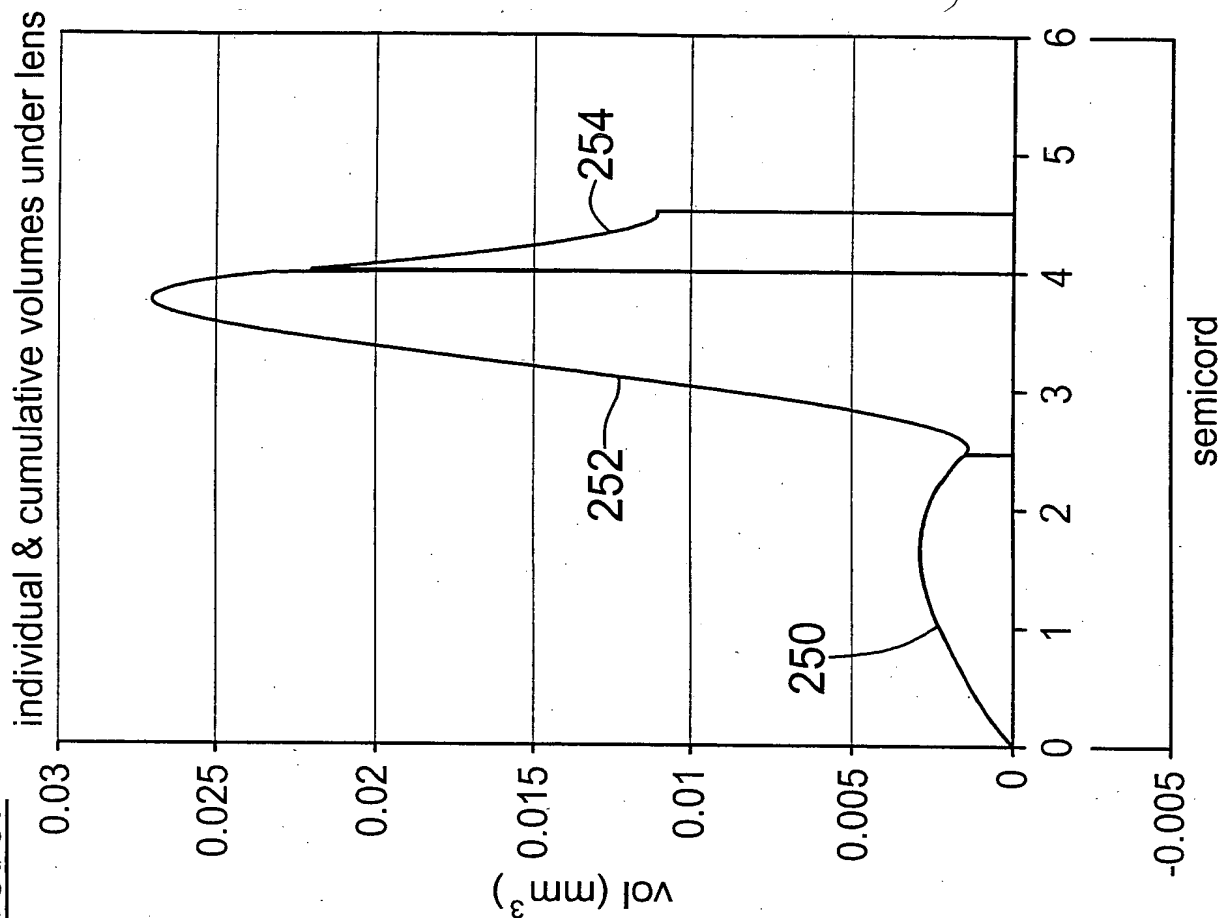


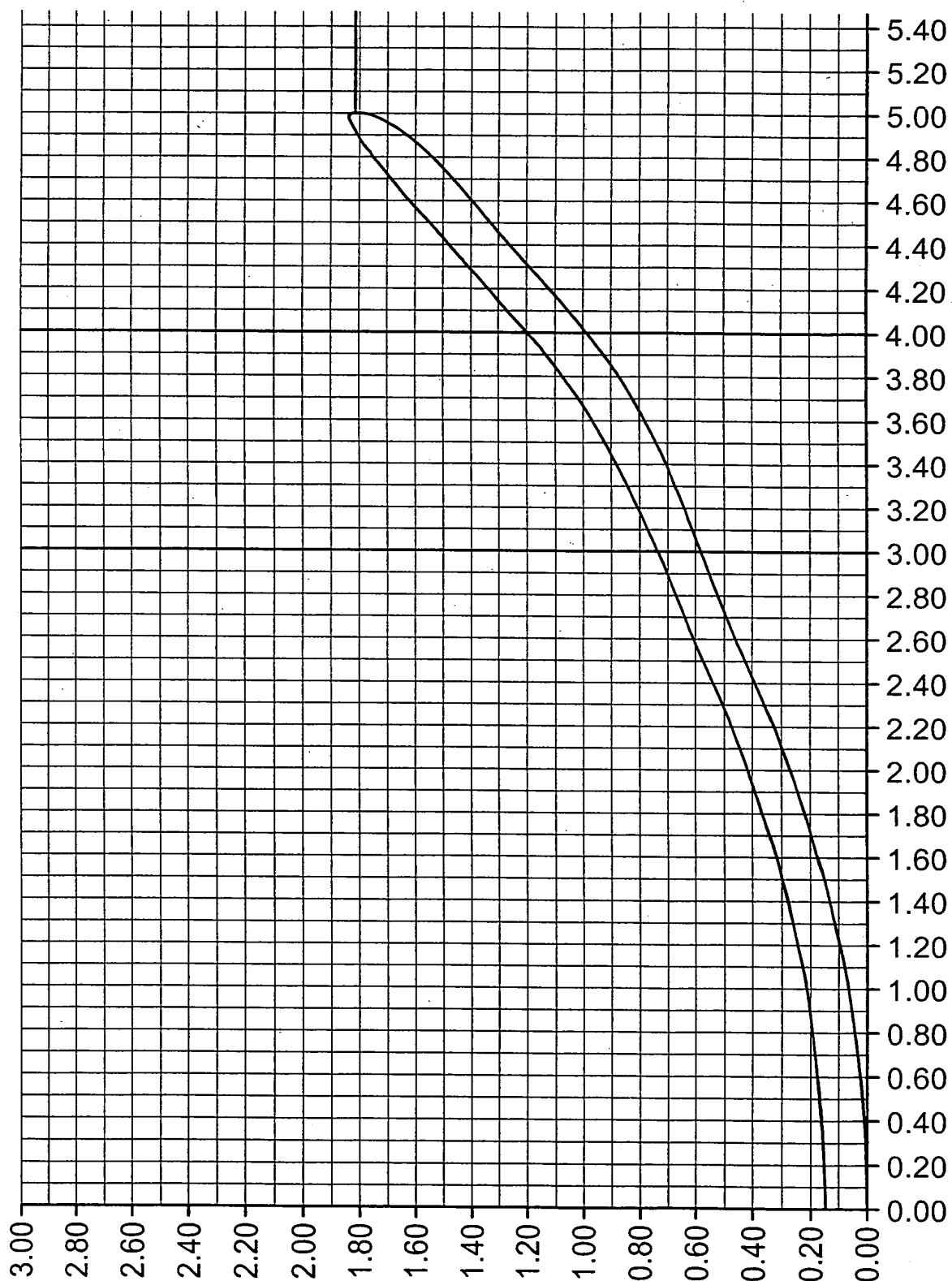
FIG. 37





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FIG. 38





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FIG. 39

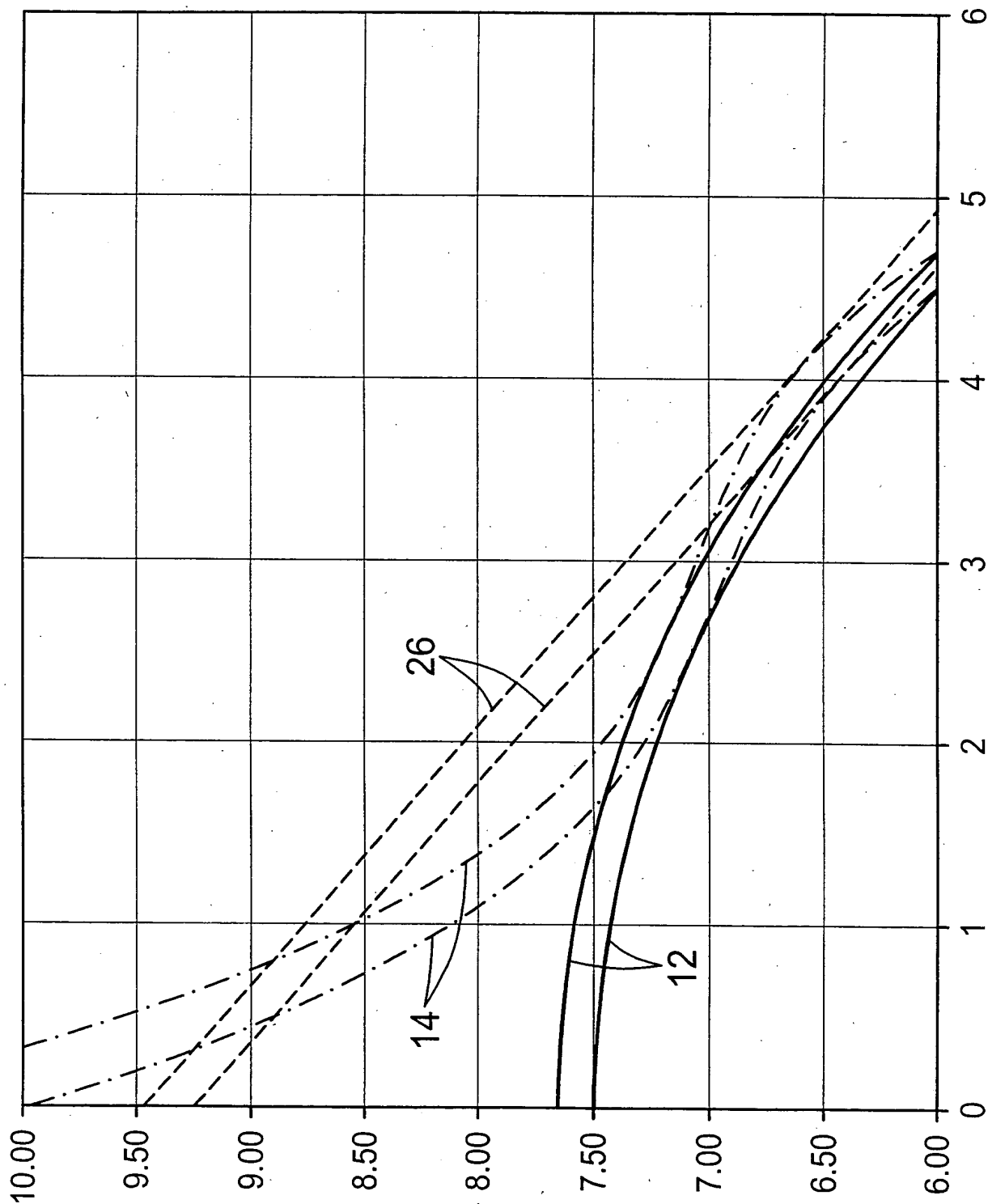




FIG. 40

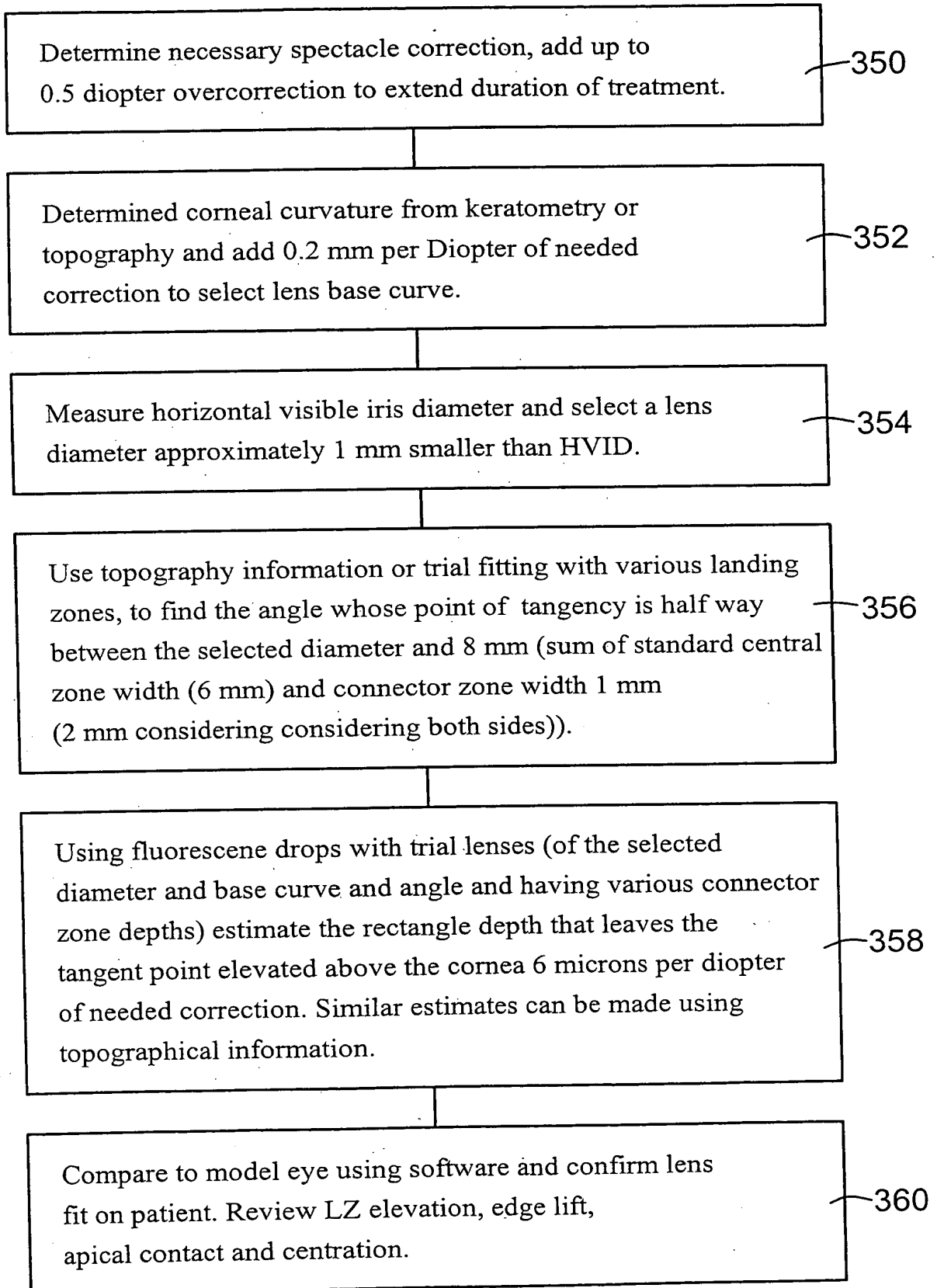




FIG. 41

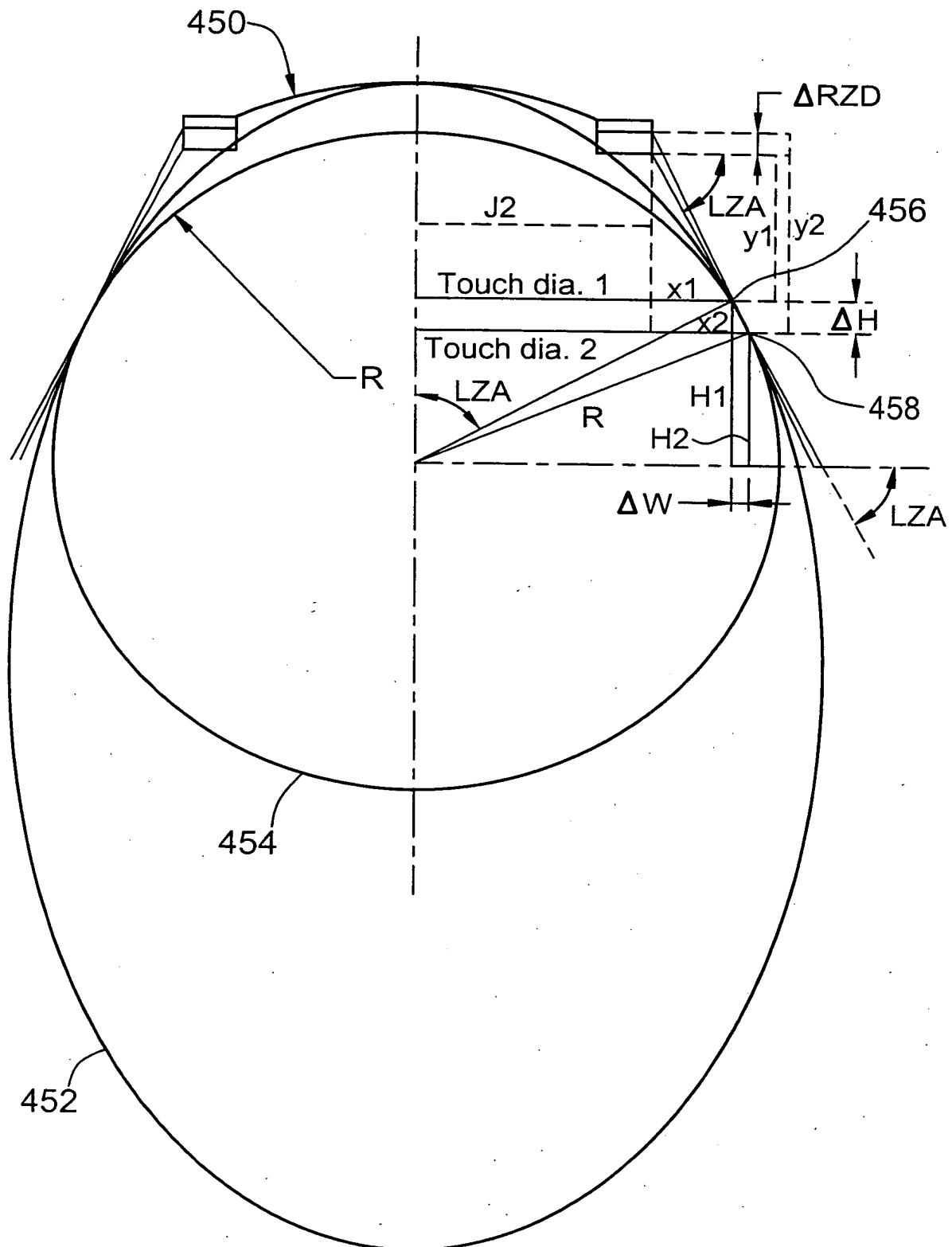


FIG. 42

